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ABSTRACT

A study in Thailand investigated the relationship of invented spelling and writing skills among students of English as a Second Language (ESL). Subjects were 12 first-grade children, aged 6-7 years, in an international school. All were taught English, including writing, by the same method. Analysis of writing samples over the course of the year focused on patterns or changes in the spelling strategies used (conventional or invented), trends in spelling proficiency, and fluency of writing as measured by size and sophistication of vocabulary, output of stories, total words used, difficulty level of grammatical structures used, and several other criteria. Results indicate that the students using predominantly invented spelling in the writing process attained high scores on grade-level spelling tests, wrote with a larger and more sophisticated vocabulary, and used more complex sentence structures than those who used invented spelling to a more limited extent. Three case studies of children not included in the group and briefer case studies of each subject in the study are presented. Implications of the results for ESL classroom instruction are discussed. Tabulated data from the study are appended in 26 appendices. Contains 165 references. (MSE)

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INVENTED SPELLING IN THE WRITING PROCESS: APPLICATIONS FOR THE ELEMENTARY EFL/ESL CLASSROOM

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INVENTED SPELLING IN THE WRITING PROCESS: APPLICATIONS FOR THE ELEMENTARY EFL/ESL CLASSROOM

A Thesis
Presented to
the Faculty of the School of Intercultural Studies
Department of TESOL and Applied Linguistics
Biola University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in TESOL

by
Shirley Mae Lundblade
May 1994

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ABSTRACT

INVENTED SPELLING IN THE WRITING PROCESS: APPLICATIONS FOR THE ELEMENTARY EFL/ESL CLASSROOM

Shirley Mae Lundblade

Current research and methodology in general elementary classroom education emphasize implementing invented spelling, a strategy which allows children to create their own spelling system, aiding in writing fluency by allowing children to communicate the intended message with the original words chosen regardless of accurate spelling. Little research, however, exists specifically on the implementation and effectiveness of invented spelling in the EFL/ESL elementary classroom. Personal research seems to indicate that in order to most effectively provide spelling instruction that meets the varied needs of individual elementary EFL/ESL students, it is beneficial to combine invented spelling with traditional spelling instruction. A longitudinal study I conducted in an international school in Thailand reveals that first grade EFL/ESL children who use invented spelling in the writing process attain high scores on grade-level spelling tests, as well as write with a larger and more sophisticated vocabulary using more complex sentence structures than peers who use invented spelling to a limited extent.

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INTRODUCTION

"In probably no other area in the language arts is there such a discrepancy between what we know and what we teach as in spelling" (DiStefano & Hagerty, 1985, p. 373). We know that spelling is an important tool in written communication. The main focus of communication, however, is the message, not the tool. Recent research, as we shall see, documents that when children are allowed to invent their own spelling of words without stressing spelling accuracy, the result is more fluent communication of the intended message. Thus, the focus is rightly on the message.

But what is happening in the classroom? Today, spelling in the classroom is still commonly taught through published spelling textbooks which do not provide a natural, meaningful context for learning to spell. As teachers are required to cover large quantities of specified curriculum, they lament that there is simply not enough time in the classroom to provide meaningful writing activities such as journals and story writing. Teachers desire to teach children how to write fluently while maintaining a high degree of spelling accuracy. Focusing too heavily on accuracy could potentially sacrifice fluency, since children may be afraid to write words which they are unsure how to spell. A balance is essential.

English as a Foreign Language or English as a Second Language (EFL/ESL) students have a more difficult time achieving both fluency and accuracy than do native speakers of English. Will such fluency and accuracy come from the use of spelling texts with only isolated occasions of communicative writing? What is the most effective spelling instructional method for these students?

Researchers have only begun to explore the implementation and effectiveness of invented spelling in the elementary EFL/ESL classroom. Recent studies in bilingual Spanish/English programs in the United States have shown the effectiveness of invented spelling (Hudelson, 1989a). I know of no studies yet which involve English as a Foreign Language in other countries. My own experience in an EFL classroom, however, substantiates the findings in bilingual studies; children's use of invented spelling aids development of both fluency and accuracy.

While teaching in a grade one EFL self-contained classroom with twenty students from various cultural and linguistic backgrounds in an international school in Bangkok, Thailand, I integrated invented spelling with traditional spelling books and associated tools. The children were involved daily in a forty-minute writing workshop. The written rough drafts were kept in writing folders to show records of written language development throughout the academic year. Analysis of the students' writing seems to indicate that first grade EFL children who use invented spelling extensively while engaged in the writing process attain high scores on grade level spelling tests and show more fluency characteristics in their writing than peers who use invented spelling to a limited extent.

The use of invented spelling along with traditional spelling books and other associated tools as a teaching methodology, however, appears to be the exception. It is important to resolve the discrepancy between what researchers know and how teachers teach spelling to facilitate the development of spelling in each individual learner, whether a native or non-native speaker of English. How can this be accomplished? I believe that in the context of a whole language environment that focuses on communication, a writing process approach which integrates invented spelling can effectively facilitate spelling development and writing fluency in the individual learners. Traditional spelling books and associated tools can be integrated as supplemental supports. Thus, the gap between what we know and how teachers teach can be bridged.

1. WHOLE LANGUAGE AND THE WRITING PROCESS APPROACH

Whole language learning emphasizes creating a learning atmosphere in which students interact naturally with language, providing an effective learning environment for both native and non-native English speakers. A whole language approach guides children in interacting with their environment so that speaking, reading, and writing growth is facilitated more naturally in both the first and second language, allowing all to participate in language activities regardless of English proficiency (Heald-Taylor, 1989).

Subject areas interlink and flow together in a whole language approach. For example, in an ESL classroom in which children chose to do a unit on caves, many language skills were simultaneously addressed. Children read books about caves, wrote on a variety of topics (e.g., what they already knew, what they wanted to learn, what happened on field trips, what guest speakers said), played games about caves, cooked (made bat cookies), and created cave art (Lim & Watson, 1993). In contrast, a traditional curriculum schedule might divide the day into 20 minutes of phonics instruction and worksheets, followed by 30 minutes in which children are in reading groups with the same basal texts, followed by 30 minutes of math, etc., which is, in fact, a very popular way of organizing the school day. Subjects are taught in isolated chunks.

The whole language approach, according to Morris (1989), is gaining nationwide attention, particularly for kindergarten and first grade teachers who have a deep interest in whole-to-part learning. Educators such as Anderson (1985), Korengold (1989), Lohman (1989), and Sowers (1981b) promote the benefits of whole language classrooms which include the integration of daily, meaningful writing. Unfortunately, the whole language approach is not the essence of a traditional classroom routine which places time-consuming and perhaps needless emphases on subskills.

In the classroom, a whole language approach stimulates children to integrate the writing process naturally with other learning processes. Verbal skills in communicating ideas and experiences provide a base upon which writing develops (S. Butler, 1991). Children begin to see the integration of writing and speaking; that is, writing is simply putting what we say down on paper. Writing knowledge comes from watching peers, reading, and previous writing (Newman, 1985). Children develop such knowledge at their own rates. "The beauty of the writing process is that it meets each student where he or she is, and takes each as far as he or she can go" (Miller, 1987, p. 7).

A major paradigm shift has transferred the focus from the product of writing to the process of writing (Calkins, 1986). Often when an essay is assigned, all the grader examines is the product. The process of how the writer got there is not considered. Calkins exhorts teachers to look at student writing behaviors and the processes they go through when writing. Because the process and product are integrated aspects of writing, not alternatives, you cannot truly consider one without the other (Newkirk, 1989). Trying to separate the writing process from the context of whole language is neither theoretically nor practically possible. By examining only the product, the teacher might misunderstand how the child arrived at the end result (S. Hall &

C. Hall, 1984). Examining both the process and product might just reveal that what seems to be a random choice actually required a very thoughtful analysis. In contrast to a product emphasis on identifying quantifiable errors, process-approach advocates believe that if teachers concern themselves with the process, the product will work itself out (Hillerich, 1985).

Not only do teachers need to be aware of the process involved, but students also need to understand that writing is a process. Drafts by native and non-native speakers of English reveal how they make, test, and revise their predictions concerning the workings of the English language (Hudelson, 1989b). Research shows that ESL writers use their native language knowledge to help build the basis for writing in their second language and continue to work through similarities and differences in both languages (Edelsky, 1982; Nathenson-Mejia, 1989). Once children understand the process and teachers accept their invented spellings and symbols, writing development increases tremendously (Heald-Taylor, 1989). Miller's (1987) research on ESL children points out that for children who generally are behind peers academically and are too often conscious of their limited abilities, the writing process can be rewarding because there are no right and wrong answers. Failure, then, is not possible. Graves (1983) explains that as students experience the long, often painstaking process of writing, they learn how to mold the writing to satisfaction. Keeping in mind that writers progress at their own rate, teachers need to be sensitive to children at different stages of development (Fueyo, 1989) and realize that communication is the heart of the writing process (McCotter, 1989; Graves, 1989).

The phrase "writing workshop" has become a commonly used expression to decribe a specific period of time set aside, usually daily, in which children express themselves in writing. A strong program would include writing at least four times per week, yet the national average is about one day in eight (Graves, 1989). Studies by Robinson and Rosenbusch in 1990 reveal that early primary programs seldom provide purposeful writing opportunities. Such infrequent writing, laments Graves, does not allow children the chance to build skills in the writing process or in listening to their own writing. A writing workshop can "accomodate both the solitary writer struggling to express first ideas about a subject and children working in partnerships or small groups to share their drafts with each other and to look for ways of improving them" (S. Butler, 1991, p. 115).

Not only should teachers encourage children to write during the specific writing workshop, but they also must focus on integrating writing into the subject areas (Lutz, 1986). Combining academic language teaching with language learning provides the environment for children to increase their communicative competence (Edelsky, 1989).

In her study of elementary classrooms, Calkins (1981b), discovered that children's energy for writing is contagious. This enjoyment and energy would seem to increase as children desire to share through written communication. The large amount of energy expended in writing, however, causes lower primary children to fatigue easily. Therefore, writing activities should be limited to shorter periods as necessary (Scott, 1982).

Various teachers testify to the benefits of writing workshops. For example, Pils (1991) presents a story of her own changes in perspective, attitude, and responsibility as she abandoned traditional workbooks, dittos, and basal readers and implemented whole language reading/writing workshops with the emphasis on teaching language skills in natural language settings. Observations by Urzua (1989) show that first grade students in reading/writing-focused classrooms perform better on many sections of achievement tests than students whose classrooms focused on phonics and basal readers. The writing workshop was viewed as a tool for students to explore the world of language by Lysaker (1993). As one of Lysaker's first graders wrote about her parents' divorce, the child learned how to express her thoughts and feelings of pain to her world, the community of her classroom. Another one of her students explored writing through trying out different structures and substitutions in pattern books. According to Perl and Wilson (1986), the routine of daily writing gives students the boundaries in which their learning is enhanced through writing.

In a writing process approach, teachers encourage students to focus more heavily on communicating the message rather than on developing spelling, grammar, handwriting, and other conventions of writing. Writing is a meaning-making exercise rather than a skills exercise (Bissex, 1980). Teachers who only look at correct use of mechanics without regard to the context and processes risk losing perspective on the writing (Newman, 1985). In order to understand how children handle the process of writing, teachers need to observe where students take risks in changing their writings through overwriting, inventing spelling, and crossing out ideas. Newman continues,

> As teachers, then, we need to look beyond neatness and accuracy when examining children's writing. We need to become sensitive to the experimenting that's going on each time a child writes. We need to understand what children's "mistakes" reveal about their knowledge of the writing process. (1985, p. 81)

Focusing on the meaning and message that children convey does not mean subskills will not directly or indirectly be addressed. Daily writing helps children to work through spelling, grammar, and mechanics as well as choose topics, revise, and help peers (Graves, 1981a). Many researchers acknowledge that students acquire and transfer these subskills gradually into their writing as they actively involve themselves in the various stages of the writing process (Hauser, 1982; Heald-Taylor, 1989; Hillerich, 1985).

While students are engaged in writing, teachers' roles vary, including modeling writing themselves, observing the children's writing, helping children choose topics, facilitating conferences, and giving mini-instructional lessons on the conventions of writing. Modeling effectively provides children with an example of working through the process of writing. Throughout their reports on the writing process, Calkins (1981a, 1981b), Graves (1983), Sowers (1981a, 1981b), and Strickland and Morrow (1989) weave themes of teachers needing to be writers themselves as well as being researchers in the classroom. The most important role, according to Calkins (1986) is for teachers to become researchers who gain insight into how to best help children by carefully watching students write. Observing children's writing can reveal their ability to remember words, knowledge of how sounds are put together to form words, proofreading skills, writing speed, dictionary skills, and attitudes toward writing (Turner, 1984).

Many terms have been used to label the various stages of the writing process. Murray prefers the terms rehearsing, drafting, and revising (Murray & Graves, 1981). A. Butler and Turbill (1984) suggest that the process includes drafting, revising, editing, and polishing, and possibly publishing. Hillerich (1985) believes writing consists of prewriting and composing, writing, skill instruction, editing, publishing, and evaluating. Difficulty lies in trying to neatly define specific stages in the writing process, as the stages are interwoven. A writer may proceed through the stages in sequence, or go back and forth between the stages with much repetition as new emerging ideas are expressed. This paper will refer to the sequence as pre-writing, drafting, conferencing, revising, editing, and publishing.

Prewriting

Students do not come into writing as blank slates, but begin writing by drawing on their wealth of experience with print, the sound-symbol system, topic knowledge, verbal language skills, and by employing various strategies to express their ideas (A. Butler & Turbill, 1984; Strickland & Morrow, 1989). Drawing on their life experiences and what they know about writing, children begin composing by first observing and describing (Raimes, 1984). Prewriting helps children discover and decide what they would like to share about their personal experiences and new ideas (Nathan, 1989). Understanding how children express these interests and ideas is helpful in planning lessons which help children further develop and express interests (Franklin, 1989).

Prewriting can include a multitude of activities, one of those being topic choosing. Topic choosing can involve individual or group brainstorming of ideas as well as choosing topics from lists provided by the teacher. Students write best when the topics are important to them (Temple, 1989b). Topics can either be non-fiction or fiction, although A. Clark (1989) encourages children to write about real events because they are often filled with emotion. Children can write to explore personal feelings (joy, anger, grief, love), nature, adult roles, how things work, and coping with life (Armington, 1984). Some children experience little difficulty in choosing topics, while for others it may seem a monumental task.

Clustering is another prewriting activity which can be carried out individually or in groups. Children brainstorm and write down words and phrases in clusters of information, as did one of my students (see Figure 1). After this, they organize the ideas and proceed to write about them in story form.

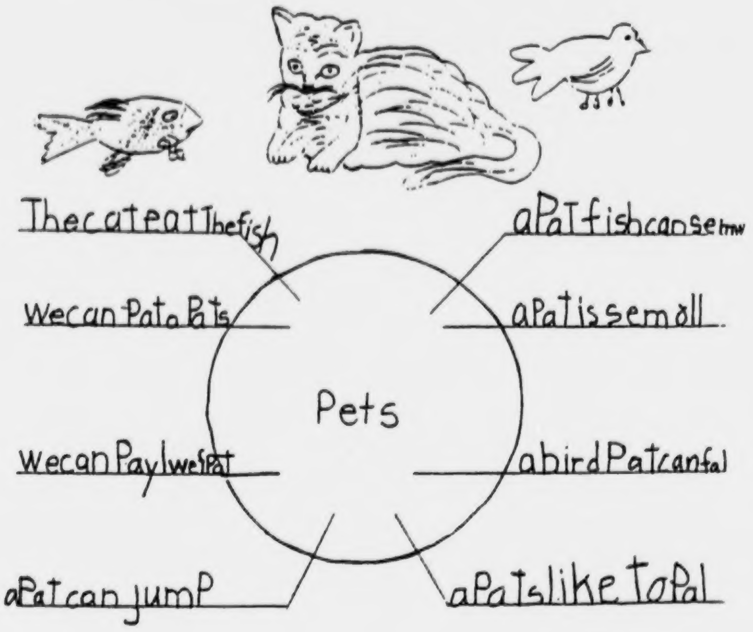


Figure 1. Feng Shu, September 18: Cluster on pets

Other quite common types of prewriting activities are visual imagery exercises. Guided listening and guided imagining are generally teacher-led activities which help children visualize ideas before they begin to write (Dixon & Nessel, 1983). Calkins describes the advantages of visual imagery through drawing: "the act of drawing and the picture itself both provide a supportive scaffolding within which the piece of writing can be constructed" (1986, p. 50). Yet, teachers who encourage drawing are cautioned that children's writing topics may be confined to the limits of their drawing ability, or, children may only write about pictures they can skillfully draw (Armington, 1984; Calkins, 1986). Drawings which usually accompany the writing often become less frequent throughout the year.

Drafting

As ideas become formed, children transition from the pre-writing activities into drafting. In order to develop in the process of writing, children need ample experiences to "play" with writing and be creative. According to Calkins, "If we are not afraid of children's errors, if we give them plenty of opportunity for writing, and if their classrooms provide rich literate environments, the children will learn quickly" (1986, p. 43). Initially, vocalizations are often frequent and important as children write (Calkins, 1986; Walsche, 1981). As writing fluency increases, the gap between oral and written language begins to be bridged, and the vocalizations decrease. Silencing these vocalizations could interfere with writing.

Drafting involves expressing ideas in written form. This expression of ideas does not necessarily begin with actual words.

Children who are emergent writers will use drawing and scribbling to convey meaning (Clay, 1975). In the drafting stage, when correct spellings are unknown, students are encouraged to invent their own representations, whether in pictorial or written form, guessing at spellings the best they can (Cramer, 1978; Hauser, 1982; Hillerich, 1985). Students may simply choose to leave blank spaces and keep on writing the text, knowing they will come back to it later. They can save time by crossing out rather than erasing words (R. P. Clark, 1987; Fiderer et al., 1986; Wolsch & Wolsch, 1982). At times, teachers may find it appropriate to provide key words for the children in advance (Robson, 1988).

In emergent first grade writing, pieces range from a few words to several pages of text. Interestingly, children write longer stories on unlined than lined paper (Fiderer et al., 1986). Children often begin writing by labeling objects (Calkins, 1986). By the middle of the school year, first graders are writing with increased length, clarity, and completeness; although at times, pieces may seem repetitious and unclear to an outside reader. First graders gradually use titles, complex sentences, punctuation, capitalization, and a higher amount of correct spelling on their own, even though generally not required at such an early age.

Clearly by the drafting stage, spelling becomes an issue. Unfortunately, spelling is often overemphasized to the point that fear of spelling errors and preoccupation with spelling rules dissuade students from expressing their original thoughts and ideas with precise, lively, and interesting words (R. P. Clark, 1987; Manning, Manning, & Kamii, 1988; Tiedt, 1983). Students begin to lose the flow of writing by repeatedly, and sometimes unsuccessfully, looking up word spellings (Sowers, 1981b). Furthermore, a prevalent emphasis on spelling impedes fluency and produces anxiety, causing writing to become a dreaded task (Wolsch & Wolsch, 1982) and stifles children's urge and confidence to write (Kamii & Randazzo, 1985). Students write more easily with a smoother language flow in an environment that allows them the freedom to experiment with sounds and letters while expressing their ideas than in an environment where they are preoccupied with the fear of making errors (Armington, 1984; Cramer, 1978; Lohman, 1989; Walton, 1989).

Teachers and children need to see invented spelling as emergent spelling, not as errors that will later need to be unlearned. Invented spelling is a strategy that helps convey a written meaning. Gradually as children experiment with revising spellings, they progressively correct their former spellings, revealing their increased understanding of the English language system (Kamii & Randazzo, 1985; Lundsteen, 1986; Questions Teachers and Parents Ask, 1984). Although it may be hard for adults to understand, "the spelling strategies and errors of young children who teach themselves how to write are very different from the spelling strategies and errors of older children and adults" (Anderson, 1985, p. 141). Teachers should praise children for what they do know, not what they do not know, about language and spelling (Busch, 1990; Coate and Castle, 1989). Nathan identifies the attitude one should have while drafting:

> If there is one thing that experienced writers know that novices don't, it is how to take it easy on themselves while drafting--not to worry about spelling, not to be critical of their ideas, but to let their thoughts flow onto the page as freely as possible. (1989, p. 11)

Although invented spelling may challenge the reader into understanding how a child has expressed meaning in writing, it also has the potential to detract the reader from comprehending the message being shared. Correct spelling, then, must not be ignored. If teachers encourage students to write without any concern for spelling, they impart the idea that spelling is not important; however, spelling is important for readability and needs to be focused on at some point in written communication (May, 1980). After the draft is finished, preferably in the later stage of editing, children can seek correct spelling through peers, teachers, classroom dictionaries, personal dictionaries, picture dictionaries, word lists, charts, books, and other helpful sources.

Conferencing

The writing process does not take place in a vacuum but in the social setting of a classroom as the children and teacher interact. Children are not only reponsible for their own topic choices, drafts, and final copies, but they share in revising, editing, and conferring with peers (Hudelson, 1986, 1989b). This social interaction motivates children to share their thoughts on another's writing, listen to feedback on their own writing, and it encourages critical thinking (Kamii & Randazzo, 1985). Not only native English speakers, but ESL children find that helping peers is a natural and enjoyable part of writing (Miller, 1987), developing a sense of community as they learn responsibility for their writing and help others (Blake, 1992).

Conferences are the cornerstones of children's revisions (Graves 1981b); whether with teachers, peers, or the whole class, they add more information or clarify existing information. ESL children could have the option of conferencing in the native language, English, or a combination of both. Reacting and responding to ESL children's ideas, not their errors, encourages both oral and written development (Hillerich, 1985). Children are helped through the rich setting of peer conferences to write more coherent, and often longer, pieces (Blake, 1992). According to Temple (1989b) a classroom full of children can have the potential to teach each other about writing better than a solo teacher can. Even at a young age, children are able to give and receive feedback on content as well as mechanics and spelling (Hauser, 1982; Kamii & Randazzo, 1985). Children, however, especially ESL learners who are unfamiliar with question formation, may initially need guidance in the techniques of conferencing, such as learning how to ask different kinds of questions for different kinds of revisions (Blake, 1992).

Peer conferences can be arranged in numerous ways. Teachers may choose to assign conference partners or students may be allowed the freedom to choose. Peers may keep the same partner for a long period of time, or teachers may even assign new partners every day. Peer conferences could also be arranged by assigning good spellers with poorer spellers (A. Clark, 1989). However assigned, peer conferences allow for tremendous feedback.

Periodically, the teacher will want to conference with a student, focusing on one or more lessons (Temple, 1989a). Possible areas of focus include topic choosing, story endings, or punctuation usage. Invented spelling conferences help children to find words in dictionaries, word banks, or even on signs and posters around the room. Teachers could help children to think of similarly spelled words by experimenting with the associations between sounds and letters. Instead of giving out correct spelling, teachers need to help children take an active role in assuming responsibility for learning to spell (Turner, 1984). Lessons on invented spelling motivate children to use their own creative abilities to express themselves, as well as help them to become accustomed to the conventional ways of representing sounds in words (Temple, 1989a).

The teacher must be careful to not control how students write, being sensitive to the children's ownership of material. Some children may view their writing with invented spelling as personal and may resist change, which must not be forced on them. Teachers need to help these children enjoy the process of revision.

In conferences, the focus should be on helping the student in the process, not on the product, thus giving them a set of "powerful tools that free them to clarify and communicate" (R. P. Clark, 1987, p. 28). After careful and consistent guidance, students begin to be able to clarify their own writings.

Revising

While conferencing involves the discussion of how to clarify a piece of writing, revising actually involves changing the draft. Revisions can involve adding, deleting, substituting, and rearranging text, although adding is the most common form of revision (Calkins, 1981b). Graves defines revision as:

> the act of changing something already composed. It may be as simple as adjusting the shape of the letter 's' written seconds before or as complex as removing a second paragraph of an article and rewriting a fifth to move up to replace the second...writing only truly becomes writing in revision. (1981a, p. 56)

A writer must keep "all strands of the past writing in mind, and yet maintain a vision of what *may* come, of what is coming clear through the writing" (Murray, cited in Murray and Graves 1981, p. 117). Revisions may be made alone by an individual or in the setting of a conference. Children who write quickly are more apt to revise larger sections of their writing on a single piece than children who write slowly (Graves, 1981a), but they do not always feel free to cross out or rewrite text. ESL children often struggle with revision, showing signs of anguish such as chewing pencils, shuffling feet, groaning, and sighing (Raimes, 1984). Yet, even first graders are able to revise their writings with or without the help of conferences (Fiderer et al., 1986; Giacobbe, 1981; Graves, 1981b; Hauser, 1982). Urzua (1986) found that ESL children made revisions best when they took their writing seriously and felt that their friends really wanted to know what only the authors could relate. She also found that ESL children who wrote about highly motivating topics would revise until they felt the product was ready for publication.

Not all student writing necessarily needs to be revised. Teachers might encourage students to write several pieces as rough drafts, and selectively choose only one to revise. This kind of approach could prevent the scenario in which children begin to write shorter stories when they know they will need to revise and correct all the spelling (Cadegan, 1986).

Editing

Often executed simultaneously with revising, editing involves giving attention to spelling, punctuation, handwriting, grammar, and other conventions of writing. These skills can be addressed in editing workshops, that is teacher and student conferences, peer conferences, and in focused and guided lessons led by the teacher.

The appropriate emphasis upon editing seems to be a point of contention. How and when should teachers handle errors? Calkins feels editing should "be kept in its place" but adds "this does not mean it should be banished from the writing room" (1986, p. 104). Editing should be handled after revisions of clarity have been dealt with and fluency has been developed on a wide range of topics (Dixon & Nessel, 1983). Spelling should be considered close to publication, not earlier in the process (R. P. Clark, 1987; Karnowski, 1989; Wolsch & Wolsch, 1982). Third grade is recommended as a beginning point by Cramer (1978). In any case, editing is not only a skill to be taught but an attitude to be developed (May, 1980).

Research with ESL children indicates that teachers must consider students' overall proficiency in the target language. As children become increasingly adept in the language, they become better able to correct errors (Hendrickson, 1984). ESL learners generally make more errors in mechanics, in spelling words which have sounds that do not occur in their native languages, and in words which have sounds represented by other letters in their native languages. One way of providing assistance in gaining editing skills is through dictated stories, a way of helping children focus on the flow of a story, yet work through the mechanics of the writing (S. Hall, 1986). Teachers can write down the students' ideas and help formulate the correct grammar and spelling. Helping children in the process of writing, not only examining the product, shows children the needed skills which gradually will enable them to become their own editors.

A commonly asked question is how much error correction must be executed before work can be published. On one end of the spectrum, some may say that scribbles and invented spelling have full rights to be published; others may argue that a piece must be error-free. The degree of error correction depends on the purpose of the writing and the publishing. At times, it may be appropriate to not correct any "errors" and at other times, error correction may be in order. Will the child's voice be lost when a piece is corrected? Will a child become disheartened with writing if several "errors" are corrected? How can we help a child communicate the meaning clearly? How can we help the child put joy into the process? Are we using time efficiently by correcting errors? Should error correction criteria be different for ESL children?

When considering criteria for error correction, Edwards reminds us to first keep in perspective that "language use is developmental, and children develop fluency, voice and effectiveness through using the language" and secondly, that "language is more than communication; it is 'meaning-making'" (1985, p. 13). Effectively using language involves actually creating the message as well as getting the point across. This creation of ideas is developmental. It takes more than error correction to develop a message. Error correction has the potential to interfere with this "meaning-making" process when focus is misplaced on attaining a "picture-perfect product" instead of understanding the message to be conveyed.

Children need to experience joy in the writing process and let their individual voices be heard in their pieces (Edwards, 1985).

> If we...look at the number of errors that would have to be corrected before publication in print, we can see that it would be a formidable and joyless task for the child. I believe that it would also change the nature of the stories. Would the child's voice still be heard?...I think the child's voice would be lost, and corrected spelling would, in fact, detract from the spontaneity and joy of...stories. (Edwards, 1985, p. 13)

In fact, Salem (1986) found that when children read their own stories in conventional print, some lose their spontaneous voicing patterns and become monotonous, as if the story no longer belongs to them.

Publishing

Publishing is the final, yet optional, step in writing. Knowing that writing will be published offers children a sense of ownership, purpose, and audience for the writing. The published product, whether it is scribblings with or without pictures, signs, or books, is very rewarding for children. Although not all work needs to be published, at least some should be published so that children are able to experience some of the revising and editing processes which help them move toward more consistent use of conventional language (Busch, 1990).

Various researchers (A. Butler & Turbill, 1984; Graves, 1989; Temple, 1989b; Urzua, 1987) are confident that children write their best knowing an audience will receive their writing. Generally children come to take the audience into strong consideration by grade three (Fiderer et al., 1986). According to Calkins, "concern with audience and final product are part of the process of play becoming craft" (1981a, p. 72). At the point of publishing, children often choose to write legibly, choose topics based on the expected audience response, and use popular techniques in writing (Calkins, 1981a).

A wide variety of means are used to publish children's writings. This will be addressed in more detail in the later section on implementation. Briefly, children can publish writing through means such as an oral report, a picture and a few scribblings posted on a classroom bulletin board, a letter to another author, an individualized written and illustrated book, or a classroom anthology.

In summary, with a whole language classroom approach, the writing process provides consistent writing opportunities to develop writing skill. As both native and non-native English speaking children write purposefully, communicative competence, spelling, and mechanics develop. In the process of writing, children possess the potential to move back and forth through stages of prewriting, drafting, responding, revising, editing, and publishing. Perhaps no written piece is truly ever finished.

2. HISTORY AND TRADITION IN APPROACHES TO TEACHING SPELLING

It was not until a hundred or more years after the invention of the printing press in 1476 by William Caxton that standard spelling became important (Temple, Nathan, & Burris, 1982). Before this invention, communication through print was rather infrequent. As reading gradually became more popular and books became more prevalent, printers and scholars realized that a conventional spelling system would standardize and speed up the reading process (Hanna & Hanna, 1967). Dr. Samuel Johnson, described as "the most influential man of letters of the eighteenth century," established a basis for English spelling when his dictionary was published in 1755 (Temple, Nathan, and Burris, 1982, p. 82). The need for a spelling guide arose, and the challenge was met by Noah Webster in 1783 with a book that proved itself to be one of the most influential of its kind for the next 100 years. His famous "blue-backed speller" emphasized rules, word lists, and rote memorization of spelling words (Hodges, 1977, cited in Yellin, 1986).

Gradually the use of conventional spelling became widespread. Those who did not keep up, but were poor spellers, were socially stigmatized as being illiterate and unintelligent. On the other hand, those who spelled conventionally were viewed as educated and intelligent (Hanna & Hanna, 1967). Throughout history, spelling has been perceived as the "soul and fiber of education," the bedrock of literacy," "the barometer of intelligence," and "the measure of our schools' successes"

(Templeton, 1992). Today, our perspective on the scope and importance of spelling has changed: "We learn about word structure--orthography--not only for the sole purpose of spelling conventionally in writing but also to facilitate efficient writing, efficient reading, and to expand our vocabulary by seeing visual connections among words that are semantically related" (Templeton, 1992, p. 461). Consequently, we must ask ourselves, have our methodologies changed to reflect this view?

Today, spelling, like many subject areas, is treated separately from other language arts (Lutz, 1986; DiStefano & Hagerty, 1985). Spelling programs range from informal to very formal. Some teachers believe that spelling should be learned only in the informal contexts of reading and writing in which children gradually and naturally learn to spell. Others teachers choose key words from the drafts and formulate individualized word lists for the children to learn. Some informal programs involve obtaining words for study from published high-frequency word lists, teacher-generated lists based on popular student usage, or word lists selectively obtained from classroom reading materials. On the other hand, most formal programs have a developed scope and sequence of predetermined words which students are required to spell at different grade levels. Most often, all students work out of spelling workbooks to compare, contrast, and memorize common lists of words.

Spelling workbooks have included some or all of the following: (a) a basic vocabulary of commonly used words; (b) a grading of words according to frequency of use and spelling difficulty; (c) a grouping of words into units or lessons; (d) provision for the review of hard words; (e) a cycle plan for teaching, studying, and testing; (f) a plan for study; (g) study exercises; and (h) tests and possibly norms (Tidyman, Smith, & Butterfield, 1969).

Such spelling books have aided teachers in guiding students through mastering grade-appropriate spelling words. Mastering words gives children a sense of accomplishment. In lower primary grades, students often comment on how easy the words are to learn. Children become even more confident when they learn "extra bonus words" assigned by many teachers. Sometimes correct spelling is rewarded through traditional spelling bees. (This oral spelling exercise should be carefully considered as it can be confusing for the child to have to vocalize alphabet letter names for the sounds heard [Hanna & Hanna, 1967].)

Primary spelling workbook activities focus on rhyming words, synonyms and antonyms, phonics analysis, fill-in-the-blank activities, and proofreading skills. At the end of many spelling units, writing activities are suggested, focusing on writing texts using the spelling words in that unit. As children engage in these activities they tend to not concentrate on the story that they are writing. Rather, they concentrate on using as many spelling words as they can in one sentence, and finishing up in one paragraph. Often, their stories do not make sense and sound choppy and stilted. Research has found spelling book writing activities to be neither authentic nor useful (Bartch, 1992).

Although spelling books have proven to be very helpful, researchers are critical of their value. For most of this century, spelling researchers have agreed that children retain words best when they are relevant and commonly used in writing. Informal spelling programs which focus on individual needs are of higher value than commercial spelling programs, which focus on learning only grade appropriate spelling patterns. Spelling publishers ignore this research because the findings logically undermine the value of a workbook specifically designed for spelling (Hillerich, 1985).

Traditional spelling books deal with a limited number of words per week. Research by Hanna and Hanna in 1967 indicated that first grade children have a listening vocabulary between 7,500 and 25,000 different words. Assuming a speaking vocabulary of about half of that amount, an average first grader could call up from memory at least 3,750 words. In this light, a traditional first grade spelling book, covering (only) approximately 200 words per year, would be entirely insufficient. Compounding this, publishers of spelling books disagree on what words are grade level appropriate. For example, one spelling book may assign the word "able" in the third grade, another in the fifth grade.

Traditional spelling books are often too simplistic:

> The traditional spelling book is divided into weekly lessons. Each begins with a word list, usually organized in order to teach some generalization. For example, the lesson for the week may focus on the /e/ sound, so the word list includes *bean, meat, seat*, and so on. It doesn't take a very bright child to figure out that any word on the test this week that has that sound is going to be spelled *ea*. (Hillerich, 1985, p. 158)

Spelling books focus on finding words which fit into specific spelling patterns; however, not all the words are useful. Children should not waste time studying words which are exotic or irrelevant to their writing (Thomas, 1977). To illustrate this, the word *beet* indeed fits the *ee* spelling pattern and may frequently appear in lower primary spelling texts, although not many children come across this word in their reading and writing.

It can be rather disheartening to see what actually happens in the classroom with a spelling book approach. For example, one researcher found that teachers spend an average of 46 percent of spelling time on administration and irrelevant activities. The remaining time was spent on oral correction of workbook pages and activities not justified by spelling research (Hillerich, 1985). When using spelling textbooks as a class, some students must impatiently wait for other students who never seem to finish no matter how slowly the class proceeds (Bartch, 1992).

Perhaps at times spelling books are being misused as a "crutch," offering support and weekly "proof" that students are learning to spell. Spelling texts often take the weight off teachers to produce multiple individualized weekly word lists. It is less time consuming to have each child memorize 10-15 words each week, whether they already know them or not, than to assess what each child already knows and assign 10-15 new words.

An informal spelling approach could involve assembling individualized word lists for each child rather than focusing on memorizing spelling pattern lists established by publishers. Teachers can obtain spelling word lists through selectively choosing words from reading materials, including sources such as the reading basal series, language books, literature books, or even words from the subject areas such as math, science, social studies, or computers.

Teachers do not necessarily have to formulate their own word lists, they may choose to utilize published high-frequency word lists to assess and teach spelling. Another option would be to teach the whole class spelling from spelling lists formulated through choosing words commonly misspelled in students' rough drafts. More individualized approaches could include assessing each student's rough drafts and choosing 10-15 words weekly for each student to learn. Thomas (1977) recommends a 10-15 minute daily spelling period to assess spelling skills, identify needs, and instruct students in need of help. However optimum this may seem, it is indeed very time-consuming to address individual needs within a classroom of 30 children.

Although some may recommend individual spelling lists for children, they may not prove efficient. Research indicates that approximately 3,000 words account for 95-98 percent of the words most commonly used by children when they write (T. D. Horn, 1969; Thomas, 1977; Tiedt & Tiedt, 1975), and fifty percent of the writing consists of using only 100 words (Tiedt & Tiedt). Thus, it seems important for children to learn correct spelling for these most frequently used words.

Other approaches to the language arts interlink phonics and spelling as these skills overlap in many areas. However, rote memorization of word lists and connecting spelling with phonics in reading is insufficient to actually engage children in active learning through writing (Edwards, 1985). Phonics in itself has been a controversial approach to learning sound/symbol relationships to teach spelling. On one side, researchers emphasize that the English spelling system is not phonetic and "too many people become demoralized when the logical, phonetic spelling of their early drafts is rejected" (Wolsch & Wolsch, 1982, p. 296). Moreover, a phonics approach to spelling enables children to become "proficient phonetic misspellers" (Hillerich, 1985, p. 158). Considering all the possibilities in how to represent the sounds, the word "seek" can be spelled 1,584 ways (Hillerich, 1985). Manning, Manning, and Kamii believe that "relentless, gimmicky phonics instruction" is not the most effective way to teach sound/symbol correspondence; they claim that learning does not occur through isolated bits of phonics instruction (1988, p. 5).

Phonics, however, should not be dismissed so easily; research indicates phonics is an important part of effective spelling instruction (Bromley, 1988; Trachtenburg, 1990). At an early age, children benefit from phonics instruction, especially in meaningful contexts with multiple opportunities for reading and writing reinforcement (Levin, 1980; Richgels, 1987). Phonetic skills of sounding out words and matching them to the corresponding letters are key starting points to writing (S. Hall, 1985b).

When viewed as a system that represents language, English spelling can be seen as consistent (Gentry, 1984). Furthermore, Tiedt and Tiedt (1975) report findings that 85 percent of English words follow regular spelling patterns. However, this percentage does not include a large number of frequently used words (E. Horn, 1969; Martin & Friedberg, 1986). Data from computerized statistical analyses showed that 49 percent of the words in a list of 17,000 words could be consistently spelled (Hodges & Rudorf, 1969). Two interpretations can be drawn: either thousands of words can be spelled consistently; or, less than half of these words can be spelled correctly. Some researchers suggest that time spent on learning spelling rules is better spent on reading and writing, since only a few spelling rules apply to a large enough group of words to warrant teaching them (Manning, Manning, & Kamii, 1988; Taylor, 1970; Tiedt & Tiedt, 1975).

Testing methods have also been the topic of research. Hillerich (1985) cites a report by Monolakes in 1975 which indicated that the average child is able to spell 75 percent of the grade level words before they even start to "learn" that particular list. The test-study-test method can prevent assigning weekly words that the children already know (Bromley, 1988; DiStefano & Hagerty, 1985; Heying, 1989; T. D. Horn, 1969; Reid, 1969; Thomas, 1977; Tidyman, Smith, & Butterfield, 1969). With this method, students can be grouped according to pretest results, with the poorer spellers receiving more direct teacher supervision; better spellers could spend time on more challenging words.

Perhaps a self-corrected test could be a better strategy to help children successfully study spelling words (Scibior, 1985). It is suggested that children keep a record of progress to measure success on the pre-tests (Hillerich, 1985). Correcting spelling errors on pre-tests involves more than simply rememorizing words. With guidance from a teacher, students should attempt to determine the pattern and cause of errors to prevent future mistakes (Anderson, 1985).

When should spelling programs be first implemented, if at all? It may be more efficient to wait until second grade for a formal list (Gentry, 1984; Heying, 1989; Hillerich, 1985). By this time, children have experienced success in correctly spelling many words. Others advocate initiating informal spelling instruction in grade two and formal instruction in grade three (Tidyman, Smith, & Butterfield, 1969). Not grade level specific, Burrows (1969) advises that formal spelling lists should not be used until children experience confidence, satisfaction, and enjoyment in both reading and writing.

The above methods and research assume that rote memorization of word lists is necessary for learning spelling. Research, however, indicates that learning to spell is developmental (as will be discussed in the next chapter); therefore, the value of rote memorization is in question. Instead, attention to spelling should be given in an authentic context of writing, which gives purpose for learning to spell (Bissex, 1980; Bromley, 1988; Tidyman, Smith, & Butterfield, 1969; Yellin, 1986). Concentrating exclusively on memorizing these word lists with high accuracy overlooks the process of helping children develop a coherent system of English spelling (Manning & Manning, 1989).

Formal, insulated, spelling programs counteract the constructive nature of a child's thinking; on the other hand, spelling instruction embedded within a total language program strives to "cultivate the child's motivational, social, orthographic, and strategic abilities as a reader/writer" (O'Flahavan & Blassberg, 1992, p. 412). Reading and writing provide children the opportunity to understand the workings of the language.

Teachers can review students' rough drafts produced during the writing workshop and choose words which were spelled inventively to be the basis for mini-lessons on spelling (O'Flahavan & Blassberg, 1992). Teachers can also individualize this approach by having children each pick five words from the current rough draft to study further. Examining the spelling strategies used for these words, rather than simply memorizing them, leads to more effective carryover as students encounter and experiment with words having similar patterns.

Another approach to spelling eliminates the weekly test and uses a 45 minute spelling strategy time once per week. This can incorporate mini-conferences on spelling rules and how to invent spellings, in addition to how to use a dictionary, a list of basic sight words, the environment, and other sources of spelling guidance (Bartch, 1992).

Children keep personal word banks of cards with one word each which they are able to spell. Five words per week which were inventively spelled in written rough drafts are selected by the teacher or student to expand these banks. After the children copy the correct spellings next to their invented spellings, they write on sticky-notes the spelling strategies which work best to spell that word correctly. The word card spelling strategy works well for those children who are developing basic vocabulary and find dictionaries frustrating. The teacher, students, and parents involved with this approach feel very positive about the children's developing spelling abilities (Bartch, 1992).

Word sorting, another viable spelling alternative, helps children identify recurring patterns and constrastive features in target English words (Schlagal & Schlagal, 1992). Children sort a given list of words according to known strategies (if the lesson focuses on short and long vowels, "cat," "mad," "brag," and "trap" go together and "take," "came," "late," and "save" go together). Once words are sorted, various activities such as word searches and word card games can aid in learning new words and increasing sight word vocabulary. Word sorts can also be used to explore common roots to learn new spellings and vocabulary (Schlagal & Schlagal, 1992).

The Language Experience Approach (LEA) addresses spelling through lessons which begin with meaningful language, move to specific skill development, and extend into other curriculum areas where writing is the necessary mode of communication (Thomas, 1977). Through reading, children discover how standardized spellings differ from their invented spellings, making the explicit teaching of correct spelling unnecessary (Martin & Friedberg, 1986). Caution must be observed, however, for correct spelling does not "just happen." Teachers need to observe children's spelling and help them to improve individual abilities (Turner, 1984). Children often need guidance in learning how to study a word. Teachers are challenged in large classrooms in which time constraints limit individual attention.

Teachers have become increasingly aware of the important relationship between early spelling and reading efforts (Morris, 1989). It is impossible to write without spelling and reading your message back to yourself as you go along. Ehri emphasizes that spelling aids the development of reading and writing; similarly, reading and writing aid spelling development when they are interwoven:

> Writing draws learners' attention to sounds in words and to letters that might symbolize those sounds...Reading exposes learners to the conventional spellings of words and indicates which of the various possibilities are "correct..." Thus, reading directs writing toward more conventional forms, and writing enhances readers' interest in and grasp of the alphabetic structure of print. (1987, p. 10-11)

For some reason, we are not satisfied knowing that these skills interlink, so we battle over that age old question of which came first, the chicken or the egg? Educators agree that listening comes before speaking; but, does writing come before reading or reading before writing?

Traditionally, "reading readiness" programs--which focus on important phonemic skills such as learning the alphabet letters, their corresponding sounds, and the way words are formed, but often not in the context of natural language--have been the norm. Often teachers introduce writing to primary grade students, not through creative expression, but by copying, handwriting, and using memorized spellings

(Bode, 1988; Strickland & Morrow, 1989). Recent research on literature and emergent writing, however, shows that given the opportunity to experiment with language, children will naturally begin to write before they are able to read (Bissex, 1980; S. Butler, 1991; Calkins, 1986; Chomsky, 1971a, 1971b; Edelsky, 1989; Fox & Saracho, 1990; Funderburk, 1986; Giacobbe, 1981; Graves, 1983; Hudelson, 1984, 1989b; Kirkpatrick, 1986; Kostelny, 1987; Lamb, Hewitt, & Reed, 1989; Read, 1971; Robinson & Rosenbusch, 1990; Sowers, 1981b, Urzua, 1989). Children have a natural inclination to try understanding relationships between sounds and letters and the formation of words while both reading and writing.

Theory and research support the practice of beginning literacy instruction concurrently with invented spelling (Bode, 1988; Chomsky, 1971b; Robinson, 1990, 1991; Robinson & Rosenbusch, 1990; Shapiro, 1991). Once children gain knowledge in representing letters with sounds, they practice putting sounds together and begin to form words. Children store as well as build upon the input from their language experiences, allowing spelling, writing, and reading to reinforce each other. This understanding can bring quite a turnabout from tradition. Instead of just teaching pre-reading skills, teachers ought to provide opportunities for students to experiment with writing on their own.

A whole language approach using invented spelling best capitalizes on children's natural abilities to connect the different language skills. As children begin to write, the context is very familiar, thus, they are able to read their own writing fluently. However, in order to read the work of another author, the readers must be able to "penetrate someone else's use of language and meaning, which is a more difficult task for the beginner" (Levin, 1980, p. 4). These two very abstract skills, writing understandably and reading, can be developed together.

Recent studies have indicated that "teaching beginners to spell phonetically facilitates word reading and also may facilitate memory for the correct spellings of words" (Ehri, 1987, p. 3). Phonemic awareness can include instructing children in letter names, sounds, the way words are made up of sounds, and how speech is a chain of sounds (Tangel & Blachman, 1992) and can include tasks such as manipulating the language by blending, segmenting, and deleting phonemes in words (Windsor & Pearson, 1992). Phonemic awareness instruction might include various songs and games that play with language by matching, blending, adding, substituting, and segmenting sounds (Yopp, 1992). For example, children can sing "Old MacDonald Had a Farm" substituting sound for animal patterns (emphasize chick, cheek, and chin when singing "With a /ch/, /ch/ here and a /ch/, /ch/ there...").

While necessary for reading success, phonemic awareness activities are to supplement but not replace reading aloud, developing language experience charts, and reading big books and pattern books (Yopp, 1992). As progress in word knowledge and understanding occurs, children notice spelling consistencies between different words (Gill, 1989a, 1989b, 1992) and will test these spellings out in reading and experiment with them in writing.

Despite decades of research, it is still unclear how to best teach spelling (Bromley, 1988). Perhaps the methodology in a classroom is determined by the school-specified curriculum, and the teachers are not allowed to follow through on their personal preferences. Perhaps teachers use what is "tried and true" and never alter methods which benefit the majority of the students. In comparing and contrasting spelling teaching methods to determine which spelling method may work most effectively, Reid concludes that:

> Spelling instruction is not so much a matter of method but rather of how adequately the method is implemented. The fact that none of the methods was *consistently* superior to the others suggests that teachers be encouraged to develop a method which they feel they can employ most adequately. (Reid, 1969, p. 357)

In my first three years of teaching experience, I was required to use a spelling book but was also allowed to let the children (EFL first graders in Thailand) experience the writing workshop daily and freely use invented spelling. The combination worked well. In my following job teaching in a regular second grade classroom in the United States, I was required to use a spelling book. Because of curriculum demands and time constraints, I was unable to either individualize spelling instruction or specifically allow one period each day for the writing workshop. Overall, I sensed that the first grade EFL children had more enthusiasm for, and control over, their spelling and writing than the second grade children in a regular classroom. The benefits of memorizing spelling words were minimal in comparison to those gained through invented spelling. What I saw in these very different classrooms led me to firmly believe that spelling is developmental and best learned in the context of the writing process where students experience spelling firsthand.

3. DEVELOPMENTAL SPELLING THEORY

> During the past decade, spelling and language researchers have shed new light on the spelling process. Spelling is now viewed as a complex developmental process. Once the stages of development are identified, teachers can help students to develop strategies for learning standard English spelling, and they can assess students' progress more accurately. (Lutz, 1986, p. 742)

In the above quotation, Lutz encapsulates the current trend in rethinking the spelling process. The initial research in the early 1970's by Chomsky and Read proposed various developmental spelling stages of writing, and the term "invented spelling" was coined by Read. Learning to spell, when viewed as developmental as learning to speak, involves rule making and hypothesis testing (Scibior, 1985) and is much more complex than memorizing correct spellings (Armington, 1984).

Invented spelling--referred to variously as non-standard, temporary, functional, creative, and unconventional spelling in many articles and books--has been defined as the "beginning writers' ability to write words by attending to their sound units and associating letters with them in a systematic, though unconventional way" (Levin, 1980, p. 2); "young children's attempts to use their best judgement about spelling" (Lutz, 1986, p. 742); and "a natural, spontaneous effort by a child taking the first small steps towards literacy" (Read & Chomsky, cited in Yellin, 1986, p. 6). "The created spellings that they produce, though a far cry from conventional English spelling, are quite systematic and surprisingly uniform among the children" (Chomsky, 1971a, p. 499).

Children cultivate spelling ability by digesting new information and using it to revise and build upon their own spelling rules (Beers & Henderson, 1977). According to Bissex (1980), invented spelling development involves the "differentiation of speech sounds to be represented by letters, differentiation of alternative spellings for some sounds; and integration of such information within the framework of systematic conceptions about spelling" (Bissex, 1980, p. 47).

Invented spelling is not creative in the sense that art and music are but in the sense of encouraging children to generate symbols for the sounds heard in a word. Invented spelling has no boundaries:

> Once children get started creating their own spellings, they can go on to write any message at all. For it is not that they know the spelling of certain words. Rather, they possess the means to write any and all words. (Chomsky, 1971a, p. 500)

Although for years, researchers have been encouraging the use of phonetic spelling to help children sound out the spelling of words (Kelley, 1969), invented spelling does not imply teaching children to spell only phonetically, as this may lead them to believe all phonetic spellings are correct (Strickland & Morrow, 1989). For example, the *sh* sound can be spelled in a variety of ways (*ship, sure, ocean, lotion, ferocious, nauseous*) and the *oo* sound has its own varieties (*to, too, two, clue, through, threw*). Children gradually perceive a multitude of inconsistencies in the English spelling system. As children recognize that their invented spellings do not always match conventional spellings, it is important for them to realize that invented spellings are not a matter of right or wrong but of spelling differently (S. Hall, 1985b). Invented spellers have demonstrated superior spelling and phonics skill, suggesting that children profitted from choosing letters to correspond with sounds as they wrote (Clarke, 1988).

Bissex (1980), a mother and researcher, documented the writing growth of her son Paul, who curiously observed others' reading and writing behaviors. From her observations, Bissex determined that learning to spell did not involve rote memorization of spelling or either "good" or "bad" habits, but a developmental progression in understanding and using the English orthography system. Paul continually revised and expanded upon his own spelling patterns, often reinventing spellings and monitoring them until he believed they were conventional. Bissex theorized that allowing children to develop a collection of spelling alternatives, rather than being corrected by teachers, aids both the children and teacher in understanding invented spelling.

What are the developmental stages in spelling? Research provides a wealth of insight into patterns of spelling development, but does not provide an adequate basis to determine one specific developmental sequence. Spelling development stages can only at best be artificially divided to detail the progression. I have synthesized the proposals and terminology of numerous researchers, using Gentry's works as my foundation (Anderson, 1985; Bear & Barone, 1989; Beers & Henderson, 1977; Bissex, 1980; Bromley, 1988; Burns & Richgels, 1989; Busch, 1990; S. Butler, 1991; Calkins, 1986; Cambourne & Turbill, 1987; Chomsky, 1970, 1971a, 1971b; Clay, 1975; Cramer, 1978; Downing, Coughlin, & Rich, 1986; Edwards, 1985; Fry, 1990; Gentry, 1981, 1984, 1989; Graves, 1981a, 1981b; Griffith, 1991; S. Hall, 1985a; S. Hall & C. Hall, 1984; Heying, 1989; Hudelson, 1981-82; Lehr, 1986; Levin, 1980; Mann, Tobin, & Wilson, 1987; McGee & Richgels, 1989; Milz, 1990; Nathenson-Mejia, 1989; Newman, 1984; Osburn & McDonell, 1983; Paul, 1976; Questions Teachers and Parents Ask, 1984; Read, 1986; Richgels, 1986, 1987; Salem, 1986; Scott, 1982; Sulzby, Barnhart, & Hieshima, 1989; Temple, Nathan, & Burris, 1982; Wood, 1982; Worden & Boettcher, 1990). In the description that follows, examples are taken from the writings of my own students' work unless specifically cited.

Prephonetic Invented Spelling Stage

In the first stage, the prephonetic stage, children begin to understand that print is a representation for an oral message and a system to transfer their ideas on paper. Initially children may or may not be able to read what they write. They may also read their texts in a number of different ways.

Most children begin by drawing, scribbling, or using various symbols and numbers before they progress in the gradual yet distinct recognition and knowledge of all the actual alphabet letters. Their individualized writing system may appear to be non-alphabetic, a special code that the child is creating. Through drawing and scribbling, children learn to manipulate hand movements and gain a sense of control with writing utensils. Scribbling is not always random. Some children's scribbling could initially be wavy and later become more letter-like as they learn features of letters.

In this stage, copying tasks and writing inventories of words are enjoyed as children explore letter forms and names. Sometimes children realize they can write a letter only after it has been written. For example, while looking back on what appears to somebody else to be scribbling, the child says, "Hey, I made an 'n.'" ESL children often use random copying, such as copying the letters off a pencil or copying labels and words around the rooms. Such copying can purposefully be used to hold the place for the intended message in the middle of a text or to stand for an entire text itself. Children want to communicate, but are sometimes unable to formulate those thoughts in English.

In this initial stage children randomly join letters together with little knowledge of letter to sound correspondence (*gishcanc = very, sieetse = children, neenng = sad*). Children also may spell a word by varying the order of the letters in their names which they have learned to write early on, e.g., Jed may write *JJEDJ* for *ship*, (Bear & Barone, 1989).

Before children are able to write words, they must develop a concept of what a word is, and be able to segment the utterances. The skill of sounding out words and segmenting the phonemes appears to be more difficult for ESL children. Early attempts for both native and non-native speakers involve breaking down their spoken words into sounds, which are matched up with alphabet letters. Teachers, especially ESL, can model writing with invented spelling to provide text with sound-letter correspondence for children. Because children may not perceive words as adults do, they may have trouble putting spaces between words. Children write lines and lines of words with no spaces (*Paul PCV WVZ = Paul plays with robot*--later read as *Robot cop play with Paul, Tstorgg = This is a good guy!*).

The ability to leave spaces between words develops in time. Children may use different techniques than adults to mark word breaks such as different colors, slashes, dots or dashes. Some children choose to write only one word on each line. Children's first writings may go in various directions. For example, some write in the middle of the paper, in columns, backwards, from bottom-to-top, from top-to-bottom, or even in a mirrored fashion.

Some emergent writers in my ESL grade one class exhibited unique characteristics in invented spellings as they wrote in both their native language and English. Another ESL writer chose to use repeated sequences of vowel-consonant-vowel patterns in most words in which the correct spelling was unknown. Initial ESL writings are worth tracing and will be explored in chapter five on case studies.

Semiphonetic Invented Spelling Stage

In the second stage, semiphonetic, children use letters to represent some of the sounds in words. Children observe that spelling represents speech sounds, and they group these sounds together, then pull them apart again, as they work on sounding out words. Research in a bilingual program found that Spanish speaking children invent spellings using their knowledge of sound-letter correspondence, letter names, and their categorizations of speech sounds according to articulatory patterns of their native language (Hudelson, 1981-82).

Letter knowledge is important in learning to write, although without phonological knowledge, it is often insufficient. Children are often unable to produce sounds for letters they can readily name, or unable to produce letters for sounds they know. Children may be able to sing the alphabet, but may not realize letter "b" makes a "buh" sound. On the other hand, when sounding out and writing the word "bite" children may ask, "How do you write the "buh?" Letters may be used according to their name, not sound (*thaq = thank you, taquw = thank you, u = you, yue r veyl good boy = You are a very good boy*).

It is often the first phoneme that represents a word or even a sentence. Children often use their first letters to label people they know or signs they have seen. For example, children may draw a picture of their mom and write "M" on the side of the page, or draw a bottle of Coke and write what appears to be a cursive "C."

Children commonly spell by sound or articulation of individual speech sounds rather than syllables or words (*pt = party, Fr = father, kntr = country*). Gradually children add in final consonants and letter name vowels. As non-native English speakers develop auditory discrimination skills, especially in the ability to hear sounds unavailable in their first language, their sounding out strategies improve, and they are able to include more letters in their invented spellings (Hillerich, 1985).

It is not unusual for children to spell the same word several distinctive ways over a period of months (see Figure 2) or even in the same story. For example, an ESL student may want to use the word butterfly in a story, but may have no idea how to spell it. The first time the child uses *mlsts* to mean *butterfly*. However, in subsequent uses, the child may write *lsmmt* or *mslls*. It seems that this child is using letters to place-hold meaning (Cambourne & Turbill, 1987).

What may appear to be random spellings could actually be carefully chosen letters to represent words or sentences. Some children choose to use a few memorized, or copied, conventional spellings before they feel comfortable inventing their own. ESL children in their first year of

August 24	Far
September 4	Farth
September 6	Father
September 13	Fathr
September 25	firth
	Fathr
	Fothr
October 8	Fathr
October 12	Fathr
October 18	Fathr
February 3	firther
April 18	father

Figure 2. Hong Jun, August 24-April 18: Invented spelling progression of a word

school use random copying longer than native speakers; in fact, some of them copy non-meaningful words and patterns for up to ten months (Cambourne & Turbill, 1987). ESL children frequently use repetition of letter groupings from their first language. Even random copying is experimental for children and involves risk taking. Children who appear afraid to take risks often do not reap the benefits of experimenting through invented spelling.

Sometimes ESL children confuse the direction of the writing in their native language with English. These examples come from a bilingual Turkish girl who was simultaneously learning to write in Arabic, a language which reads from right to left (*em = me, pu = up, ti walduw dit em = It would bite me.*) Sometimes Chinese students would staple books together backwards, with page one appearing last. Letter reversals are common (*dut = but, po = go, dady = baby*).

ESL children are often exposed to sounds their native language doesn't have. Invented spellings reflect the difficulty with the auditory discrimination of these new sounds (*obdere = over there,* *Degle = danger, aenemrs = animals, casrl = castle, wef = with, hefe = heavy, jece = just, colala = color, sojr = soldier*).

Phonetic Invented Spelling Stage

In the third stage, phonetic, children spell words as they sound. All the sounds in a word are represented, although spellings may appear unconventional. Children often choose letters by word length, known rhyming sounds, or the position of that phoneme in the word, including considering preceding and following phonemes. Vowels are more consistently used. This stage of spelling is commonly seen in first grade writings (*bkoz = because, hangri = hungry, doters = daughters, anudar = another*). Phrases may now be written as a single word (*wozpontm = once upon a time*) and single words may be written as a phrase (*bee cross = because*). Unless children have at least reached this stage, formal spelling instruction is of little value (and is often of much frustration).

ESL children use knowledge of phonemes and articulation from their native language to work through English spellings. For example, because the Spanish "j" is voiced as the English "h," Spanish speakers may write *jelper* for *helper*.

Children's invented spellings can show their phonemic awareness of similarities in articulation (*chran = train, jrgn = dragon*). Nasals such as "m" and "n" are commonly omitted before consonants (*wot = won't, wrog = wrong, agre = angry*). Past tense markers and plurals are often spelled phonetically (*helpt = helped, bart = barked, dox = dogs*).

Transitional Invented Spelling Stage

In the forth stage, transitional, children begin to move beyond the strict phonetic (sound to letter) spellings and articulation strategies to include knowledge of morphology, syntax, rules, and other complex patterns in the English spelling system. Children realize they do not need a perfect sound to letter correspondence. As children trust their linguistic judgments, conventional spelling gradually becomes more consistent. Children's strategies change as they gain experience and awareness of spelling principles and conventions. Children are often able to unconsciously formulate rules for the complex patterns of English spelling without formal teaching. Perhaps children may retain these rules better when they are deduced rather than when they are taught. Parents do not consciously teach children sound-letter correspondences and word segmentation in the home, yet children learn such patterns. This stage occurs in the latter half of first grade or in grade two, but does not become consistent until later grades.

In this stage, children use visual memory patterns of spelling. Children may spell by analogy, using known words to produce unknown words (*liein = lion, toolup = tulip, eyering = earring*). Homonyms may also be confused (*I went two see her. = I went to see her.*). Children may visualize the shapes of letters, sometimes in insequential order (*paly = play, fro = for, gril = girl, gorwing = growing*).

Children commonly experiment with and often overgeneralize consonants and vowel patterns in syllables:

--the long vowel "e" marker at the end of words (*bote* = *boat*),
--diagraphs "sh" and "ch" (*shur* = *sure*, *chri* = *try*),
--doubled consonants (*munne* = *money*),
--inflectional ending "ing" (*siwmink* = *swimming*),
--inflectional ending "en" (*seew* = *saw/seen*),
--letter sequence "ck" (*backe* = *bake*),
--letter sequence "igh" (*ligth* = *light*).

Correct Spelling Stage

In the fifth stage, correct, children spell words conventionally (*mother* = *mother*). As children are gradually exposed to more print, correct spellings replace most of their invented spellings. Morphology in terms of word roots is used to build writing vocabulary (the word family for "help" includes "helped," "helping," "helper," and "helpful"). As children develop spelling habits, their individual theories of how the alphabet works become more complex and developed. Their personal system of spelling rules becomes more accurate and sophisticated as new knowledge is applied. Although even adults make spelling errors, the correct stage is reached at approximately grades four or five. Some teachers indicate that even second graders often spell the majority of words correctly.

With all its benefits, why don't teachers consistently incorporate invented spelling in the classroom? Two classroom limitations are time and curriculum constraints (Heying, 1989). Another problem is that although teachers may encourage invented spellings, they do not provide frequent and spontaneous writing experiences (Robinson & Rosenbusch, 1990). Furthermore, some teachers are hesitant to use invented spelling because they fear that nonconventional spellings will persist and that children will learn bad habits (Read, 1986). Teachers may also not know how to deal with parents' questioning why children are not expected to spell correctly (Snyder, 1991). Despite the multitude of recent literature on invented spelling, some teachers may still feel writing experiences are developmentally inappropriate for young children (Robinson & Rosenbusch, 1990).

Assessing and understanding the process and products of invented spelling helps teachers to understand children's personal spelling development, insights into knowledge of sound-letter phonemic correspondence, morphological knowledge, visual memory techniques, orthographic knowledge, and principles used in writing. At any point in the school year, teachers can informally assess students' understanding of letters and sounds to aid in guiding students into further experimentation and word study for spelling and literacy instruction. Informal assessment tools such as that developed by Richgels (1986) aid teachers in analyzing error occurrences, locating break-downs in the process of spelling development and providing instruction suitable to the speller. Helping students in such specific ways may not come naturally to teachers, and spelling in-services can be of aid to them (Kostelny, 1987).

Developmental spelling theory is best seen in the context of the writing process. Both native and non-native English-speaking students focus on using invented spelling as a means of conveying ideas. The teachers focus on observing where students are in the developmental process of spelling and providing instruction as needed. Chapters four and five will show a longitudinal study and correlating case studies in which a whole language approach benefits EFL children who do not have the same natural abilities in English as do native English speakers. Invented spelling is their key to writing fluency.

4. LONGITUDINAL STUDY

Background

Clarke's 1988 study was one of the few that compares students who use invented spelling with those who use conventional spelling. The investigation involved four classrooms of first grade children; two had teachers who encouraged children to use invented spelling and two had teachers who encouraged children to use correct spelling. Students were not allowed to choose which way of spelling they would use. ESL students were excluded from the study. Clarke focused on comparing areas of written text length, word usage, syntactic complexity, and spelling strategies in the writing samples.

Looking strictly at a word count, the invented spelling group wrote texts averaging 40.9 total words, whereas the traditional spelling group only averaged 13.2 total words in the twenty-minute periods. It was clear that invented spellers wrote longer stories.

Clarke reasoned that if using invented spelling allowed children to write any word needed, then perhaps children using invented spelling would write stories with a larger variety of words. Clarke's investigation revealed that the invented spelling group averaged 13.8 different words at the grade one level and 9.6 different words above the grade one level. The traditional spelling group averaged 6.5 different words at the grade one level and 3.9 different words above the grade one level. However, when the total number of words was converted to percentages of total words used, the differences became less significant. (Invented spellers spelled approximately 68% and traditional spellers spelled 61% at grade one level). Clarke then suggested that children who used conventional spellings did not feel restricted to only write words they knew how to spell; rather, they found the correct spellings or asked someone who knew.

Clarke found no large differences in syntactic complexity of the children's writings. However, she only took into account the sentence length, not the types of words used, the verb tenses, sentence patterns, and sentence types which collectively could give a more complete analysis.

Clarke made a number of interesting observations about the children's writings. Even though traditional spellers spelled more words correctly, the invented spellers actually demonstrated superior spelling and phonics analysis skill in the final tests given. Invented spellers spent only 4% of their time using spelling aids such as dictionaries, basals, or peers. Children who used traditional spelling spent 25% of their time using spelling aids. Invented spellers spent only 1.2% of their writing time simply waiting for the teacher to help, whereas the figure for traditional spellers jumped to 18%. Almost half of the traditional speller's time was not involved in actually creating the story.

Fiderer et al. (1986) also observered children who use invented spelling and those who use conventional spelling. They concluded that children who are concerned about correct spelling write fewer words and less interesting texts, as they spend so much time perfecting each word that they forget the intended message. Stories may sometimes be ended before they are actually complete, because children may quit writing when they do not know the correct spelling of a word they want to use.

The Problem Under Investigation

To the best of my knowledge, no such studies have compared EFL children who preferred invented spelling with EFL children who preferred conventional spellings. I conducted a longitudinal study focusing on the use of invented spelling and conventional spelling and their effects on the written texts of EFL children. I hypothesized that students who use more invented spelling would (1) use appropriate grade-level correct spelling by the end of the school year and (2) exhibit more fluency characteristics in their writing; that is, they would write longer stories with a more sophisticated vocabulary and use more elaborate sentence structuring than children who tended to focus on correct spelling.

The Subjects

The setting was a first grade self-contained EFL classroom at Ruamrudee International School in Bangkok, Thailand. English was the second or third language for most of the children and was infrequently or never spoken in the home environments. All children were from middle-class socioeconomic backgrounds. Native countries represented in the classroom included China, Japan, Korea, Malaysia, Singapore, Taiwan, Thailand, Poland and Turkey. Some children were able to write in their native languages, others were not. Some children received formal instruction, often one day a week, in their native language. Although fluency levels varied, most children were able to speak basic Thai. Thus, most children were learning three languages simultaneously, either informally or formally. The children, ages six to seven, began the academic year with limited English skills. Some only knew a few letters of the alphabet and a few words, while others knew most of the alphabet letters and had a basic speaking vocabulary. Almost all children were able to write some basic English.

Subjects for this study were the 12 children who were in my classroom for a full academic year and who did not already have previously developed spelling and writing skills. The average class size was approximately twenty students, but because of the nature of a self-contained EFL/ESL classroom, students could be transferred to a different EFL/ESL room or mainstreamed to a regular grade one class. New students could also be admitted. Summaries of selected children's invented spelling and writing strategies will be presented in the following chapter on case studies.

Students were divided into three groups: invented spellers (three children), conventional spellers (three children), and the middle group (six children). The procedure by which this was done will be described later. The invented and conventional spellers' gender, nationality, and age are given in Table 1, and information for all 12 is given in Appendix A. Boys and girls were equally represented in the research sample, with two girls and one boy in both the conventional spellers and invented spellers groups, and four girls and two boys in the middle group. Most children in the study were Asian, with the majority being Chinese. The children who used more invented spelling averaged 6 years 2 months in age, while the children who used more conventional spelling averaged 6 years 7 months. It is of interest that the invented spellers were on an average five months younger; however, the effect of this five month gap is unknown. One might reason that older children would be more developmentally ready to write than the younger children.

Table 1

Gender, Nationality, and Age of Children

Name	Gender	Nationality	Age as of August
Invented Spellers			
Hong Jun	Male	Korean	6 years 1 month
Gokce	Female	Turkish	6 years 1 month
Feng Shu	Female	Chinese	6 years 4 months
Mean Age for Invented Spellers			6 years 2 months
Conventional Spellers			
Alice	Female	Chinese	7 years 7 months
Tracy	Female	Chinese	6 years 2 months
Hiu Pong	Male	Chinese	6 years 2 months
Mean Age for Conventional Spellers			6 years 7 months

Classroom Materials and Procedures

A basal reading program was used as the primary source of formal reading instruction. Flash cards were used daily to introduce new words from the basal. In addition to formal instruction, the teacher read aloud two literature books per day to the group. Children also were able to take home one new library book each day.

The Spelling and Vocabulary textbook (Henderson & Templeton, 1990) was used during two or three thirty-minute periods per week. During the first quarter, children were tested weekly on sounds, and during the following three quarters children were tested weekly on spelling words.

The children were involved daily in a forty-minute writing workshop. Children were allowed free topic choice for writing; however, many chose to use sequenced picture stories and cartoons that were made available. With the guidance of the teacher and an aide, the children wrote at their own pace, proceeding through the stages of prewriting, drafting, conferencing, revising, editing, and publishing. The written rough drafts were kept in individual writing folders which were collected and reviewed daily by the teacher. Group conferences were held on specific points needing instruction. Teacher-student conferences were held when the children finished a written draft. Peer conferences were added by the middle of the year. Students would read and then discuss their stories with the teacher and/or peers.

In the beginning of the year, children would make minimal revisions before publishing the written text. Within a month children were increasing story length and making books. Children chose one story to publish each month in an anthology. Most of the other stories were made into books and each child was able to display one book at a time on a classroom bulletin board. When a new story was published, the old one from the bulletin board was taken home by the author. One or two periods a week were set aside specifically for reading peers' stories from this board. Children also chose to go back to the bulletin board and read their peers' stories when they had free time.

Children were also encouraged to write in the subject areas, and wrote weekly in individual journals, involving both free choice of topics and assigned topics. These writings were not included in the study.

Invented spelling was encouraged; although some children asked for help, hesitant to create their own spellings. Instead of giving correct spellings in the first few months to children who persisted in asking, the teacher helped them to sound out words or encouraged them to try their best. By the third month, children were encouraged to make their best guess and underline the spelling words that they did not know how to spell. During the conference, the teacher would confirm that they spelled it right or give the correct spelling.

By the middle of the year personal spelling dictionaries alphabetically arranged by first letter were introduced. As a group, the children brainstormed words they wanted to put into their dictionaries. After the initial brainstorming, children would add words on their own which they underlined in written drafts of stories. If asked for a spelling that was already in their personal spelling dictionary, the teacher would star the word, and students would look up the correct spelling. Children were encouraged to not use their spelling dictionary or research the correct spelling of a word until after the first draft in order to avoid interrupting the flow of the story.

Research Analysis

I analyzed the data by looking for general trends, comparing those who wrote with more invented spelling with those who wrote with more conventional spelling. It is beyond the scope of this thesis to give detailed statistical analyses since no control group was used. Many variables such as previous English exposure (writing, spelling, reading, and verbal ability) and overall intelligence the children had before coming into this EFL/ESL classroom were not taken into account. Enthusiasm for writing, motivation, cultural expectations from the family, and the creativity level of stories are important but were not measurable, thus, not recorded. I can only say I observed and felt that the children who used more invented spelling were more enthusiastic about writing and wrote more creative stories than those who used less invented spelling. Despite not having a control group, one must remember my purpose was to look for general trends between both groups.

For individual and group comparisons, the children were first ranked in order from the student using the highest frequency of invented spelling after one month of writing to the student with the lowest frequency of invented spelling. Initially, the six children who used more invented spelling were referred to as the "invented spellers," and the six children who used less invented spelling were referred to as the "conventional spellers." This division was initially felt to be the best for comparing the results of all the children. However, after assessing the data further, differences between the two groups were not significant. This original division, I realized, was not truly accurate, for all of the children used invented spelling to some extent. In fact, almost all children used less invented spelling in the first month, and actually began using more invented spelling in the second and/or third months. Therefore, children who used more invented spelling overall had actually been misplaced in the conventional spellers group.

As a result of this finding, the children were re-ranked according to the percentages of invented spelling used overall during the eight month period. The three children with the highest percentages of invented spelling were called the "invented spellers" and the three children with the lowest percentages of invented spelling were called the "conventional spellers." The other six children were known as the "middle group." Because of the length and complexity of the comparisons, the tables with the data for the twelve children are presented in Appendices A-T in three sections: invented spellers, middle group, and conventional spellers. Only comparisons of the mean scores for the invented and conventional spellers are given in table form.

My first hypothesis was that the students who used more invented spelling would use appropriate grade-level correct spelling by the end of the year. However, I did not only want to look at the final results, but I was interested to see if there were differences in performance initially and throughout the span of a year between the children who used more invented spelling and those who used more conventional spelling. I also wanted to explore how the ability to identify sounds and spell words in isolation would carry over into the writing workshop in which children creatively wrote stories, frequently needing to use these words in a natural context. To answer these questions, children were tested during the first week of school for letter-to-letter correspondence, sound-to-letter correspondence, and basic word recognition. Throughout the first quarter, sound-to-letter correspondence was tested weekly. Throughout the remaining three quarters, sounds were no longer tested in isolation, but in the context of weekly memorized spelling words. A final test was given to show overall retention of memorized spelling words.

I wanted to explore spelling strategies in a non-test situation: to see if the amount of invented spelling would decrease consistently month by month, if the children would spell grade one level words correctly by the end of the year, and if the children would actually be able to spell words above grade level correctly with consistency. In order to look at spelling in the natural context of writing, the rough drafts from their writing workshop sessions were analyzed monthly (20 writing periods) and at the end of the year (8 months--collectively 160 writing periods minus days children were absent). Data sheets to tally results for each month and the eight month total were used and specific guidelines were adhered to (see Appendices U-W).

Spelling strategies were assessed by comparing the amount of invented spelling each child used per month, by assigning children's spellings into the developmental stages (prephonetic, semiphonetic, phonetic, transitional, and correct spellings), and by determining the amount of words at each grade level which were spelled correctly for the last month. For this information, I used the Complete Word List presenting all the spelling words in the Houghton Mifflin Spelling and Vocabulary book (Henderson & Templeton, 1990). This list presented all its target words in alphabetical order along with the grade level at which each word was tested. I counted the grade level for the first time a word was presented. For example, the list presented the following: "said 1-13S, 2-2E, 3-26R." This means the word "said" was tested as a special word for writing in grade one unit 13, an elephant (challenge) word in second grade unit 2, and as a review word in grade three unit 26. The word "said" was counted as a grade one level word since that is when it was first tested.

My second hypothesis was that the invented spellers would exhibit more fluency characteristics in their writing than conventional spellers. In order to compare fluency, the size and sophistication of vocabulary in the students' writing was measured in the written rough drafts of the invented and conventional spellers. I wanted to see which group wrote a higher number of stories, a higher number of total words, a higher number and percentage of different words from various grade levels, and a higher number of different parts of speech (nouns, verbs, adjectives, adverbs, prepositions, conjunctions, pronouns, articles, determiners, interjections, and indecipherable words).

Other measures of fluency are story length and structural complexity, measured to determine if the invented or conventional spellers used a higher number of words per story, more sentences per month, a higher average sentence length, a smaller number of run-on sentences, more direct speech usage, a higher variety of verb tenses, a higher number of various sentence patterns, and a higher number of sentence types in the written rough drafts.

Results

Results for Testing Isolated Sounds and Spelling Words

Information about the students' phonemic abilities and spelling was collected through various tests. Children were tested in August after the first three days of instruction to assess letter-to-letter correspondence in which the students printed the lower and upper case letters that the teacher said. Table 2 and Appendix B summarize individual performances. The results for all three groups are very similar: most children were able to identify and write the lower and upper case letters without error.

Table 2

Lower and Upper Case Letter-to-Letter Correspondence

August 23 (fourth day of school)

	Invented Spellers	Conventional Spellers
Mean number of lower case letters written correctly out of 26	25.7	26
Mean number of upper case letters written correctly out of 26	26	24.7

Children were tested that same day for sound-to-letter correspondence (students wrote the letter for the sound the teacher produced) and word recognition (children circled the word from three choices that the teacher said). Tables 3 and 4 and Appendices C and D represent the data.

Table 3

Sound-to-Letter Correspondence

August 23 (fourth day of school)

	Invented Spellers	Conventional Spellers
Mean number and percentage of sounds correctly identified out of 26	23 (88%)	23 (88%)

Table 4

Basic Sight Word Recognition Test

September 3

	Invented Spellers	Conventional Spellers
Mean number and percentage of words correctly identified out of 53	50 (94%)	52 (99%)

Both the invented and conventional spellers correctly identified 88% of the sounds; thus, it appears that initially neither group showed a higher ability to identify sounds. The invented spellers correctly recognized 94% of the basic sight words, and the conventional spellers correctly recognized 99% of the basic sight words. It appears that the conventional spellers had slightly higher basic word recognition in the beginning of the year.

Sound-to-letter correspondence was then tested every other week for the first quarter. After the first quarter, the conventional spellers tested better on sounds identification (95% for conventional spellers compared to 91% for invented spellers). Beginning the second quarter, word spelling was tested weekly (the students wrote down the word that the teacher said). During the second quarter, both groups spelled virtually all words correctly. During the third quarter, invented spellers spelled 92% of the words correctly, and conventional spellers spelled 96% correctly. A final exam requiring students to write the majority of the spelling words learned that year was given. For the fourth quarter and the final exam, both groups scored between 99 and

100% accuracy for the grade one level words (see Table 5 and Appendix E). Such results seemed to indicate that all the children had excellent ability to memorize assigned grade level spelling words. Thus, even those who used more invented spelling were able to spell grade level words correctly as seen in a final exam at the end of the year.

Table 5

Sounds Identification and Spelling Test Results

	Invented Spellers Mean and Percentage		Conventional Spellers Mean and Percentage	
First Quarter Sounds (Total = 250 sounds)	227.67	(91%)	238	(95%)
Second Quarter Spelling (Total = 78 words)	77.7	(100%)	78	(100%)
Third Quarter Spelling (Total = 111 words)	102	(92%)	107	(96%)
Fourth Quarter Spelling (Total = 51)	49.7	(99%)	49.7	(99%)
Final Exam Spelling (Total = 144)	142.3	(99%)	143.3	(100%)

Invented and Correct Spelling Strategies

In order to explore spelling ability in the context of the writing process, I compared the percentages of invented spelling usage for the invented and conventional spellers for words not only at the grade one level, but at all grade levels for each month. (Later, this will be compared with the results from Table 5 and Appendix E which show spelling ability in the context of isolated memorized words.)

Comparisons in percentages of invented spelling use for individual children as well as groups for each month show significant differences (see Table 6 and Appendix F). All children, except one, actually used less invented spelling in the first month than in the second and/or third months. This seems to indicate that most children started their writings with more "safe spellings." Yet, within three months, they felt more freedom to try new words and use more invented spelling. Gradually, with the support of weekly spelling lessons, the use of invented spellings decreased for all children.

During the first two months, the invented spellers used 54% and 71%, an average of 63%, invented spelling and by the last two months it was down to 35% and 24%, an average of 30%. This indicates significant improvement. During the first two months, the conventional spellers' used 15% and 31%, an average of 23% invented spelling, and by the last two months it was down to 14% and 12%, an average of 13%. The conventional spellers improved, but not by such a wide margin.

One must remember that this data covers spelling words from grade one to at least grade eight. My original hypothesis was that invented spellers would spell grade level words correctly. First graders cannot be expected to "invent" correct spellings for words which are highly above their grade level. Although the overall percentages of accuracy are not as high as those for grade level assigned spelling words shown in Tables 2-5 and Appendices B-E, the children gradually spelled many words correctly at all grade levels, using less invented spelling throughout the year.

Table 6

Percentage of Invented Spelling Usage for Words

at All Grade Levels per Month

month	Invented Spellers	Conventional Spellers
1	54%	15%
2	71%	31%
3	59%	24%
4	41%	19%
5	39%	14%
6	39%	11%
7	35%	14%
8	24%	12%
mean	46%	18%

To explore how both the invented and conventional spellers performed at each grade level, I looked at the number of words used and percentage of words correctly spelled during the eighth month of their writing (see Table 7 and Appendix G). Both the invented spellers and conventional spellers attained a 97% accuracy for grade one level words. The invented spellers spelled 83% and the conventional spellers 96% of grade two level words correctly. The invented spellers spelled 52% and the conventional spellers 75% of grade three and above level words correctly.

Table 7

Mean Number of Words Used and Percentage of Words Spelled Correctly at Different Grade Levels for Month Eight

	Invented Spellers		Conventional Spellers	
	mean number of words used	percentage spelled correctly	mean number of words used	percentage spelled correctly
Grade 1 words	79	97%	92	97%
Grade 2 words	52	83%	50	96%
Grade 3 and above words	81	52%	90	75%

In order to find out if the spelling test results would correlate with the results of spelling for creative writing during the writing workshop, I compared results for the eighth month of creative writing with the last quarter (nine weeks) and the final exam given during the eighth month. On spelling tests during the last nine weeks, both groups achieved 99% accuracy. Both groups also had 99 to 100% accuracy on the final examination (see Table 5 and Appendix E). As could be expected, children performed better on spelling memorized words in isolation on tests. However, during the writing workshop, the invented and conventional spellers spelled with 97% accuracy at the grade one level (see Table 7 and Appendix G), obviously an extremely high accuracy level for creative writing. These children were able to carry over the ability to spell correctly at the word level to the story level.

It is of interest to look at the invented spelling developmental stages in more depth. I wanted to explore if children would tend to gradually move through the stages of invented spelling, or if they would continue to use the different strategies simultaneously. I also wanted to look for differences in the developmental stages between the invented spellers and conventional spellers. Table 8 and Appendices H and I break down the use of invented spelling into its five developmental stages for the individual children, the invented spelling group, and conventional spelling group. Thus, one can compare the percentage of words that children spelled at the prephonetic, semiphonetic, phonetic, transitional, and correct stage for each month as well as an average of all the months.

Table 8

Percentage of Types of Invented Spelling Strategies at Different Developmental Stages for an Eight Month Mean

percentage of words at each stage	Invented Spellers	Conventional Spellers
prephonetic stage	2%	2%
semiphonetic stage	19%	5%
phonetic stage	20%	6%
transitional stage	5%	5%
correct stage	54%	82%

Overall, the children gradually moved through the developmental stages, showing a decrease in the numbers of words spelled at each stage as the months went by. Very few words, however, were spelled in the transitional stage, indicating more of a jump from the phonetic stage to the correct stage. A comparison of the invented spellers and conventional spellers shows no significant difference in the prephonetic and transitional stages. The invented spellers tended to use more invented spellings in the semi-phonetic and phonetic stages and the conventional spellers tended to have higher percentages in the correct stages.

Size and Sophistication of Vocabulary

I wanted to explore the fluency characteristics of the invented spellers and the conventional spellers by comparing the total number of stories written in the eight months, the total number of words used in the eight months, the total number and percentage of different words used in the eight months, and percentages of words used at different grade levels (see Table 9 and Appendix J).

I had expected to find that invented spellers would write longer stories with a higher total of words used. To my surprise, the invented spellers wrote an average of 52 stories compared to conventional spellers who wrote an average of 69 stories. Perhaps this was due to the amount of time needed to proofread stories, using spelling dictionaries. The invented spellers also had a smaller total number of words used in the eight months (4024 for invented spellers and 5525 for conventional spellers).

Even though the invented spellers used a smaller number of total words, they used a higher number of different words than the conventional spellers (574 compared to 528). Fifteen percent of the words in the stories of the invented spellers were different, as compared to 10% for the conventional spellers. (In writing stories, adults as well as children use the same words over and over again. In fact, in 1975, Tiedt and Tiedt estimated that half of adult writing is comprised of only 100 words used in different combinations.)

Table 9

Mean Number of Stories and Words at Different Grade Levels for the Eight Month Period

	Invented Spellers	Conventional Spellers
mean number of stories in the 8 months	52	69
mean number of words in the 8 months	4024	5525
mean number and percentage of different words used in the 8 months	574 (15%)	528 (10%)
percentage of grade one words	25%	28%
percentage of grade two words	25%	25%
percentage of grade three and above words	50%	47%

When comparing the words used at different grade levels, the invented spellers used a higher percentage of grade three and above level words, and the conventional spellers had a higher percentage of grade one level words, indicating that invented spellers felt greater creative freedom to try more difficult and varied words.

Since I thought that the invented spellers would exhibit more fluency characteristics in their writing, I wanted to explore the different parts of speech used to find out where the differences in vocabulary between the two groups would occur. Perhaps the higher variety of words used by the invented spellers would be spread out evenly over the parts of speech or perhaps certain parts of speech were used more often. Table 10 and Appendices K and L break down these words into their respective parts of speech in both a total number count and percentages.

Table 10

Mean Number and Percentage of Different Parts of Speech Used for the Eight Month Period

	Invented Spellers	Conventional Spellers
nouns	208 (35%)	204 (39%)
verbs	141 (25%)	133 (25%)
contractions	11 (2%)	7 (1%)
adjectives	61 (10%)	61 (12%)
comparative or superlative adjectives	2 (0%)	1 (0%)
adverbs	46 (8%)	39 (7%)
prepositions	15 (3%)	16 (3%)
conjunctions	5 (1%)	5 (1%)
pronouns	28 (5%)	20 (4%)
articles and determiners	22 (4%)	21 (4%)
interjections	21 (4%)	16 (3%)
indecipherable words	15 (3%)	5 (1%)
total	575 (100%)	528 (100%)

Table 10 seems to show slight differences between the groups, however, no general trends were noticed. Sometimes one child may have a particularily high use of a certain part of speech, and this significantly raises the group's average. Variety in using different parts of speech seems to be an individual factor.

Story Length and Structural Complexity

In order to determine if the invented spellers or conventional spellers wrote longer stories, I counted the number of words used for that month and divided it by the number of stories. The averages show that the conventional spellers wrote longer stories for all but one month (see Table 11 and Appendix M).

Table 11

Mean Number of Words For Each Story per Month

month	Invented Spellers	Conventional Spellers
1	15	17
2	24	28
3	61	81
4	151	162
5	127	66
6	81	108
7	101	129
8	144	249
final story	889	1274

Note. Month eight average does not include the final story. The final story is an individual story, not an average.

However, individual variations that appear may mean that the number of words per story is not a meaningful measure of comparison between invented and conventional spellers. For example, looking at conventional spellers in month five, Alice's stories averaged 122 words while Tracy's only averaged 29 words. In month eight, Alice's average was 521 and Hiu Pong's was 88 words per story. Children were often inconsistent in the number of words per story; for example, Alice's story lengths for months five to eight averaged 122, 63, 172, and 521 words respectively. Her final story was 1101 words long. Story length could depend on factors such as topic choice, ability to retell stories, or even mood.

Before the mean sentence length could be determined, I looked at the total number of sentences per month. The conventional spellers used more sentences in months one through three but the invented spellers used more sentences in months four through eight (see Table 12, Appendix N).

To assess the mean sentence length, I divided the number of words by the number of sentences for each month. First grade children often write one sentence a page long, causing difficulty in accurately calculating the mean sentence length. Therefore, when estimating the mean sentence length per month, run-on sentences were broken down to make grammatically correct sentences to prevent abnormally high sentence lengths. Although conventional spellers had a longer sentence length for the majority of months, the overall sentence length means were 6.29 for the invented spellers and 6.25 for the conventional spellers (see Table 13 and Appendix O).

Table 12

Mean Number of Sentences per Month

month	Invented Spellers	Conventional Spellers
1	28	43
2	29	50
3	31	33
4	44	34
5	49	35
6	96	44
7	89	72
8	118	105

Table 13

Mean Sentence Length per Month

month	Invented Spellers	Conventional Spellers
1	4.24	3.59
2	5.99	4.86
3	6.57	6.80
4	6.88	6.83
5	6.76	6.76
6	5.79	6.57
7	6.89	6.95
8	7.18	7.65
overall mean	6.29	6.25

Although run-on sentences initially were viewed as a problem in data analysis, they actually are one possible means of assessing the structural complexity of sentences (see Table 14 and Appendix P). It seems that in the first three months the invented and conventional spellers did not differ much in the total number of run-on sentences per month. As the months went on, the gap became wider and the conventional spellers used more run-on sentences than the invented spellers. This might indicate that the invented spellers had more control over sentence structuring and better understanding of the sentence components.

Table 14

Mean Number of Run-on Sentences per Month

month	Invented Spellers	Conventional Spellers
1	2	1
2	12	12
3	10	11
4	16	19
5	14	20
6	10	24
7	10	27
8	12	28

In order to compare the children's abilities to retell stories in the third person, I looked at direct speech usage. Individual students had as low as 37 and as high as 373 uses over the eight months (see

Appendix Q). When means were calculated for each group, there were not many differences, 131 for invented spellers and 129 for conventional spellers (see Table 15). The amount of direct speech usage seems to be an individual factor.

Table 15

Mean Number of Direct Speech Usages per Month

month	Invented Spellers	Conventional Spellers
1	0	0
2	3	6
3	9	14
4	14	14
5	12	25
6	23	19
7	25	28
8	44	23
total	131	129

In order to further break the sentences down into individual components, I felt it would be valuable to compare the abilities of the invented and conventional spellers to use a variety of verb tenses (see Table 16 and Appendix R). The invented spellers used a higher percentage (7%) of verb tenses other than the simple present tense, seen mainly in a 7% increase in the use of the simple past tense. The other differences were within 1%. This suggests that the invented spellers may have greater flexibility with verb tense usage and were better able to write about things in the past, present, and future tenses.

Table 16

Mean Number of Different Verb Tenses for the Eight Month Period

verb tenses	Invented Spellers	Conventional Spellers
simple present	370 (66%)	585 (73%)
present progressive	20 (3%)	34 (4%)
simple past	136 (24%)	139 (17%)
present perfect progressive	13 (2%)	13 (2%)
other past	1 (0%)	1 (0%)
simple future	15 (3%)	20 (2%)
other future	14 (2%)	12 (2%)

Another possible measure of structural complexity is the variety of sentence patterns used (see Table 17 and Appendix S). The differences appear minimal with the exception that invented spellers used more phrases and subject-verb patterns while conventional spellers used more of the subject-verb-object pattern. Even though I would predict that using more subject-verb-object patterns would lead to a higher average sentence length, this difference was not found. Likewise, I thought that the use of more phrases and subject-verb patterns by the invented spellers would have decreased their sentence lengths, but it did not.

Table 17

Percentage of Different Sentence Patterns for the Eight Month Period

sentence types	Invented Spellers	Conventional Spellers
Labels/One Word	7%	6%
Phrases	9%	6%
Subject - Verb	21%	17%
Subject - Verb - Complement	17%	17%
Subject - Verb - Object	30%	40%
Subject - Verb - Indirect Object - Object	1%	1%
Subject - Verb - Object - Complement	0%	0%
Subject - Verb - Coordinating Conjunction "and" - Subject - Verb	4%	3%
Subject - Verb - Coordinating Conjunction (others) - Subject - Verb	3%	2%
Subject - Verb - Clause "because" - Subject - Verb	2%	3%
Subject - Verb - Clause (others) - Subject - Verb	6%	6%

My last measure of structural complexity was to determine if the invented or conventional spellers would write with a larger variety of sentence types used (see Table 18 and Appendix T). Sentences were classified as imperatives, declaratives, exclamatories, and interrogatives. By far both groups used declarative sentences the most. It appears that the invented spellers used a slightly higher percentage of the other sentence types. Varying the sentence types often results in more interesting stories.

Table 18

Mean Number of Different Sentence Types for the Eight Month Period

	Invented Spellers	Conventional Spellers
imperative	21 (3%)	15 (2%)
declarative	530 (86%)	759 (90%)
exclamatory	40 (7%)	38 (5%)
interrogative	25 (4%)	29 (3%)

In sum, none of these measures of structural complexity measured significant differences between the invented and conventional spellers. However, the minimal differences were generally in favor of the invented spellers.

Conclusions

My first hypothesis was that the invented spellers would use appropriate grade-level correct spelling by the end of the school year. The invented spellers had between 99 and 100% accuracy in the last quarter of school and in a final examination for sounds identification and spelling test results. Indeed the invented spellers used appropriate grade-level spelling, as assessed by test of words in isolation.

These results carried over into the writing workshop. During the eighth month, invented spellers were able to correctly spell 97% of the grade one words they used. In looking at the first month results for spelling words at all grade levels, the invented spellers inventively spelled 54% of the words. In the eighth month, the invented spellers inventively spelled only 24% of the words. Considering that this included words from all grade levels, all improved dramatically (see Tables 2-7 and Appendices B-G).

The next hypotheses were that the invented spellers would write longer stories with a more sophisticated vocabulary, and would use more elaborate sentence structures than the conventional spellers. Results seemed to show, on the contrary, that the conventional spellers actually wrote both more and longer stories. This may be in part a result of the invented spellers having to use more time proofreading their work and using their spelling dictionaries. The conventional spellers used more sentences with the subject-verb-object pattern.

In favor of the invented spellers were a higher number of different vocabulary words, a higher percentage of words at the grade three and above level, a lower number of run-on sentences, a higher percentage of verbs with tenses other than the simple present, and a higher percentage of a variety of sentence types.

The groups did not seem to differ much on the percentages of different parts of speech used and the average sentence length. The conventional spellers fared better in some areas, but the invented spellers fared better in more. Considering that the invented spellers had a higher number of new words in their writing vocabulary and significantly decreased their amount of invented spelling throughout the year, overall results seem to favor invented spellers.

Discussion and Need for Future Studies

There are several reasons why I did not see the clear cut differences that I expected between invented and conventional spellers. The first is that it turned out to be difficult to establish the two groups and categorize children as belonging in one or the other. Some children labeled as conventional spellers actually inventively spelled up to 45% of their words in a month. A study with a more carefully delineated control group would be more conclusive. A related reason to the lack of differences between the groups is the presence of uncontrolled variables. Perhaps the age gap--conventional spellers being five months older--between the two groups had some effect on the potential writing development growth. Factors such as previous English exposure (writing, spelling, reading, and verbal abilities), overall intelligence, continued exposure in the home, cultural expectations from the family, and motivation were not measured. Also unmeasureable were the students' enthusiasm, enjoyment gained from writing, and creativity level of stories. Future studies of invented spelling in the ESL/EFL classroom could attempt to control or eliminate these variables.

The environmental setting is yet another variable. Due to the nature of a fluid EFL/ESL classroom, the number of subjects was relatively small (six out of twelve were used for the longitudinal study), although I had more than 20 different students during that academic year. Having a higher number of children in the study would minimize the extreme data differences that a few children in each group showed.

The importance a teacher places on spelling also affects the environmental climate. I never enforced using correct spelling until the story was to be published. Even then, it was not stressed nearly as heavily as the content of the story. I focused foremost on the message, not the means. I often added in correct spellings here and there without much attention being drawn to them. Teachers who place more emphasis on correct spelling, even if they use a writing workshop approach, can affect the students' attitudes towards writing with correct spelling.

A further study might compare these children as they grow older, focusing on their writing fluency, again looking at the spelling, size and sophistication of vocabulary, and elaborateness of sentence structuring. The freedom of early exposure to a writing workshop could lead to more fluent writing as an adult.

To a greater extent than mere numbers could ever show, I am convinced that invented spelling helped all the children in this EFL/ESL classroom. It provided a means for freedom of written expression that the children would not have had if I had required only correct spellings to be used. Overall, the students enjoyed and felt successful at writing, allowing for potential positive effects on all future writing. The difference between the children's first and second months of writing (see Table 6) demonstrated how these children had already been preconditioned that correct spelling was very important. Many initial stories were uncreative and stilted to achieve correct spelling, since the children tended to write what they had been previously taught. Many used sentences such as "I like the bird." and "I like the ball." By the second and third months, the children experimented more in writing and ventured into using more invented spelling. Stories began to have a more natural fluency as the children left their "safe spellings" behind.

With the freedom of the writing workshop and the given eight months, all children increased in fluency and spelled appropriately for their grade level. In fact, I would even venture to say that their spelling was far above average. To show the positive effect of invented spelling that statistics cannot reveal, the following chapter will show some interesting, moreover intriguing, writings of individual children.

5. CASE STUDIES

Several students in my EFL classroom exhibited invented spellings which deserve individual attention. Three of the students were not included in the longitudinal study because they transfered to another EFL classroom. The first two boys experimented both in Thai and English spellings. The third student was a Korean boy who was rather verbal in English but seemed to have extreme resistance to writing on his own. The figures are the students' writings and drawings, unless denoted with a "t" to mean the teacher's response. The figures were reduced between 64% and 85% to fit the pages appropriately.

Case Study One

Masapong, a Thai boy at age 7 years 10 months, entered the EFL self-contained classroom with an English speaking vocabulary of approximately five words. Masapong remained with the class for two months, and was then transfered to a lower-level EFL classroom. Masapong was delayed in his native language development, very shy, and rarely spoke in Thai or English. Initially, he was able to correctly spell his name in Thai and inventively write a few words in Thai, but was unable to write any words in English. Within several weeks, he learned how to write his name in English without help and was beginning to write a few words in Thai and English. Even after two months, though, Masapong was unable to read basic English stories.

In the initial assessment tests (see Tables 2, 3, 4, and 5 for comparisons) Masapong was unable to write any lower or upper case letters or identify any sounds correctly on his own. He correctly identified approximately 40 out of 250 sounds (16%) for the first quarter. Masapong was unable to follow along for the initial shorter version of the first grade sight word recognition list. When retested individually the following day, he scored 27 out of 40 (68%). This relatively high score did not seem to correlate with his actual reading or expressive skills, and it is not known if he made random guesses.

Masapong's first three efforts (August 21-29) were beautifully drawn and colored pictures with no words. During conferences he said a few Thai words. Given time, he labeled the pictures in Thai with แม่ , (แม่ means mother), and พ่อ (พ่อ means father), accurate except for misplaced tone markers. After more conferencing, translating, and using an environmental cue of a picture of a kite in the room, Masapong wrote "ki" by the kite. He wrote "n" for moon and the Thai letters รก , equivalent to the English "rk" on one draft. The next draft had a rocket with the word "rocket" correctly spelled.

Masapong's subsequent drafts from (August 29 to September 13) included very detailed beautiful pictures. On one draft he wrote "[illegible] ," possibly sounded out as /kəni/ or /kæti/ to label catfish. The letter " " is an invented Thai spelling for either "นิ" (/n/ sound) or "ติ" (/t/ sound). The correct Thai word for *catfish* is "[illegible] " sounded out as /blɔtəpo/. Thai speakers as well as myself were unsure of his writing, although it appears that he used Thai letters for some English sounds. Outside of this Thai spelling, he had no other spontaneous writing at this time.

Masapong was beginning to make sound-to-letter correspondences with guided writing. The teacher slowly said words, and he put the sounds into English letters to label words as follows: *P = bird, FeY = flower, hc = house, btehe = boat go home, dot = boat, Qrd = crab, sf = fish, re-eco = robot.* Between September 13 and 26 Masapong wrote the following in his stories without the teacher's guidance, *bthe = boat, ere = egg, rehc = robot, fisw = fish, tte = coconut, fr = flower, be = bird, rco = robot, Masapongber = Masapong like boat, Jirber = Jirat like boat.* In the middle of September, he began to connect his words and numbers into stories. The arrows seem to help show how he connected words together (see Figure 3).

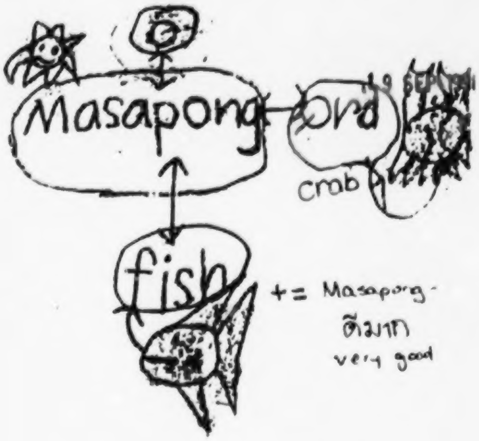


Figure 3. Masapong, September 18-19: Word connections with bubbles and arrows

Masapong experimented with mirror writing, punctuation marks, speech bubbles, and arrows to connect the flow of language (see Figure 4). In our conference, I understood from his isolated words that he and his friend Jirat were having fun in the rockets.

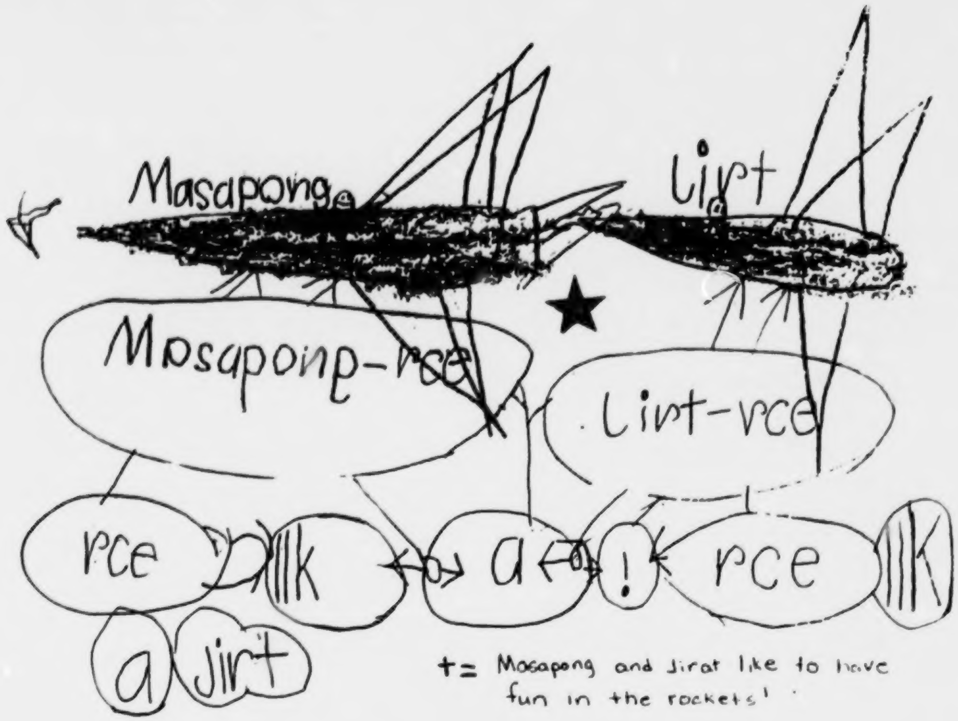


Figure 4. Masapong, September 26-27: Mirror writing and speech bubbles

Masapong's next stories (September 28 - October 12) did not use bubbles to separate words, but used captions. He began to write sentences without separating the words (see Figures 5 and 6). The Thai language does not separate words in a sentence or use punctuation marks; therefore, knowledge of his native language sentence structure was carried over into English. Masapong appeared to use letters to place-hold meaning when he did not know the English word or how to spell it. Masapong added new English words to his vocabulary: *oos = octopus, reb = run, pro = don't, gos = ghost, Yse = yes,* and *ghests = ghost.*

English writing	English transcription
Masaponglikrc	*Masapong likes the rocket.*
Masaponglikbre	*Masapong likes the boat.*
obthebk	*open the door (guided writing)*
Jirtlikespapto	*Jirat likes bad.*
Jirtlikestrto	*Jirat likes toys, too.*
Masaponglike tr	*Masapong likes toys.*
Jirtlikesrtvpot	(indecipherable on a picture with the moon and stars)

Figure 5. Masapong, September 28-October 12: Transcriptions of his writings

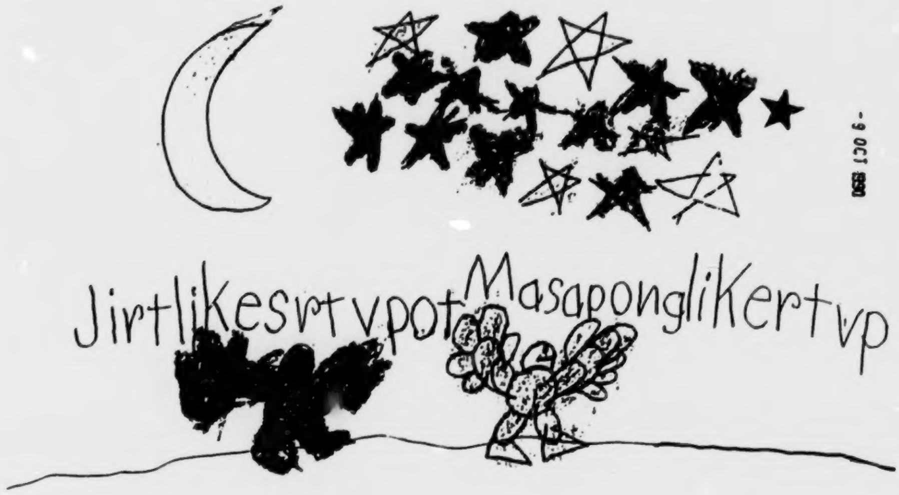
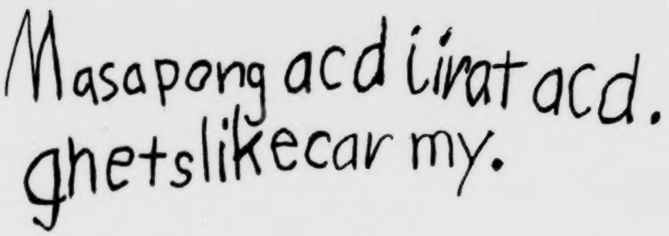


Figure 6. Masapong, October 9: Native language structural carryover

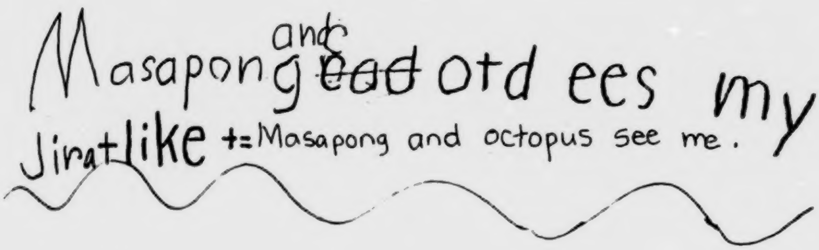
In the middle of October, Masapong responded for the first time to one of my written comments. On a picture with ghosts chasing people he wrote *Masapongbonliksghetslikes = Masapong doesn't like ghosts*. I wrote "Why not?" He responded *srr = scary*. Masapong began to use punctuation marks and separated words (see Figure 7).



Masapong acd lirat acd.
ghetslikecar my.

Figure 7. Masapong, October 16-17: Sentence structure with punctuation and slight separations between words

Figure 8 shows the only editing change Masapong made after a conference, correcting the word "and."



Masapong and ~~ead~~ otd ees my
Jiratlike += Masapong and octopus see me.

Figure 8. Masapong, October 18: Editing change on his own

By the middle of October most children were writing four page stories on their own. With guidance, Masapong wrote and illustrated two multi-page stories, the first is seen in Figure 9. Masapong's story was about two bears chasing him and Jirat. His second story was much shorter on the topic of kites. It was very difficult to understand Masapong when he read his story; therefore, it was not possible to give a translation.

(page one)
Masapongand irat the.
badlikes eae meot.

(page two)
MasapongandJirat.
the baclikes
me roe the bac.

(page three)
thes bae likes em
to my and Masapong
and Jirat ON my.

(page four)
Masapong and Jirat
rettwobar.

Figure 9. Masapong, October 18-31: Multi-page story

At this time, Masapong was transferred to another EFL classroom where he continued to write, using invented spelling. He slowly made progress in English. As a teacher, I was pleased with Masapong's progress. Although his writing skills developed more slowly than those of his peers, he indeed made significant progress. Invented spelling allowed him the freedom to write his message and receive praise for doing so.

Case Study Two

Jirat, a Thai boy at age 6 years 2 month, entered the EFL self-contained classroom with very limited English. He remained in the class for two months, and was then transfered to a lower-level EFL classroom. Jirat was shy, rarely spoke in English, and had a working vocabulary of approximately 20 words. When we conversed in Thai he responded adequately. He was able to spell many Thai words (some inventively).

In the initial sounds assessment tests (See Tables 2, 3, 4, and 5 for comparisons) Jirat was able to write 22 out of 26 lower case letters correctly and 25 out of 26 upper case letters correctly. Jirat identified 21 out of 26 sounds correctly; however, this data is invalid because he copied most of his answers from another student. Because of his frustration level, he was not retested. Jirat correctly identified 181 out of 250 sounds (72%) for the first quarter. Jirat was able to receptively identify 20 out of 40 words (50%) on a shorter version of the first grade sight word recognition list. When retested individually the following day, he scored 30 out of 40 (75%).

Jirat's first drafts (August 21 - September 21) were collections of different pictures. Jirat was eager to use guided writing and labeled pictures in Thai or English using invented spelling in both languages (see Figure 10). Sometimes Jirat crossed out errors in drawings and writings with the Thai word for mistake (ผิด) beside it. During conferences I verbalized and wrote my responses in Thai, English, or both languages. At times he would recopy my responses on his paper, seemingly unaware of the meaning. He responded to one written question with a written answer.

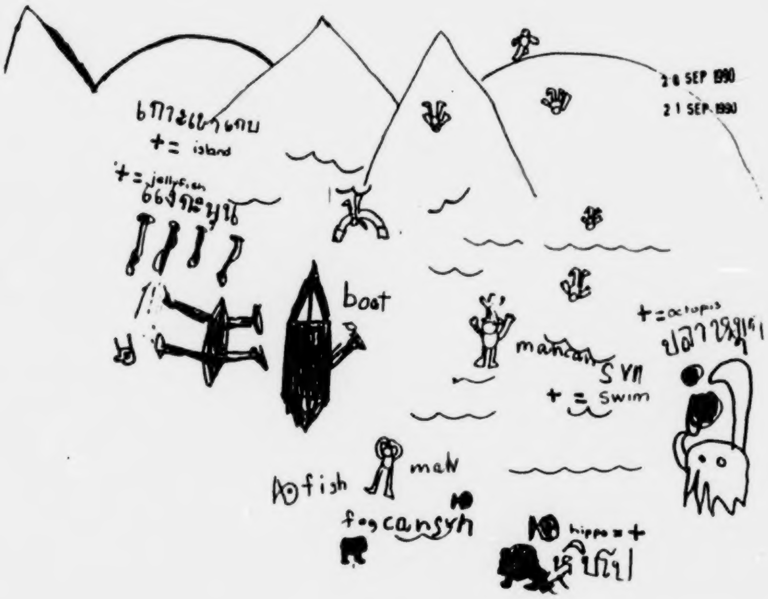


Figure 10. Jirat, September 20-21: Thai and English Writing

By the middle of September Jirat was writing with minimal guidance. At times Jirat would read his written Thai word to me with the English translation. Jirat's Thai writing continued with some invented and many correct spellings. Jirat began some sentences in English, but freely finished in Thai when words were unknown in English (see Figure 11).

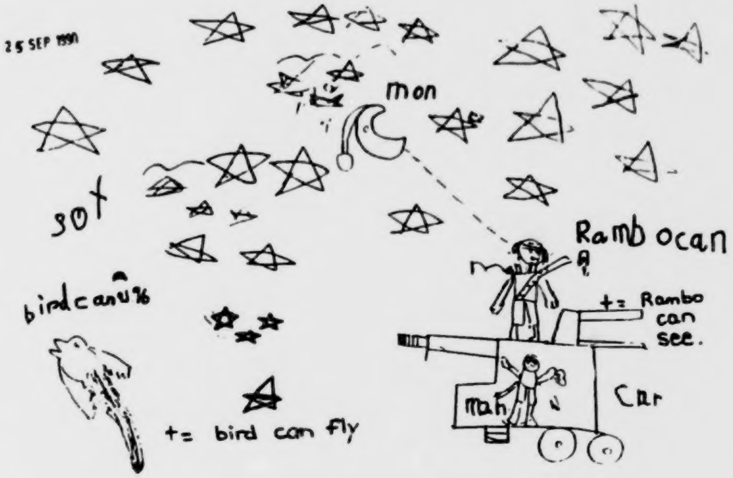
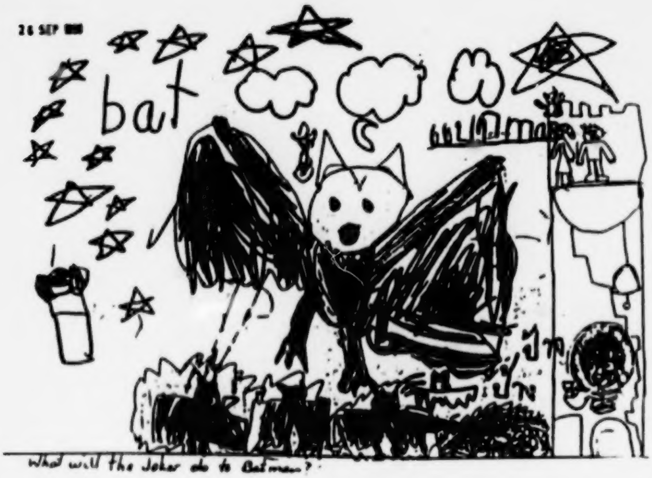


Figure 11. Jirat, September 25: Sentences with both languages

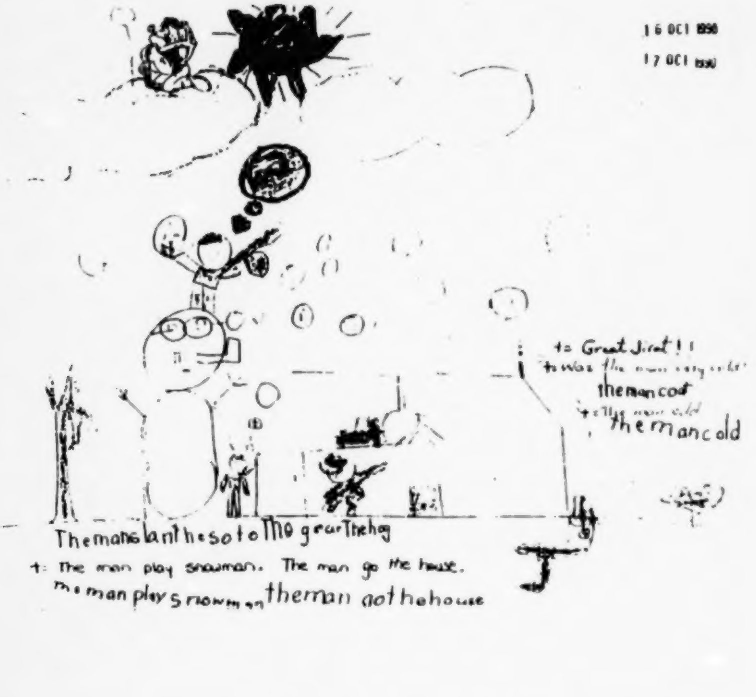
In one instance, Jirat wrote the English word *bat* and the Thai/English combination แบ็ก *man* which is sounded phonetically as /bɛ kmæn/ (see Figure 12).

By the middle of October Jirat was writing sentences on his own. After conferencing with Jirat, my aide or I would sometimes write the transcription on his paper. Later, he would recopy our comments (see Figure 13). Although he separated words previously at the phrase level, he did not make separations between words in sentences. This would show carryover from his native language in which words in sentences are not separated.



What will the Joker do to Batman?

Figure 12. Jirat, September 26: Thai and English compound word



t: Great Jirat!!
t: Was the man very cold?
themancod
t: The man cold
themancold

Themanslanthesoto The gearThehag
t: The man play snowman. The man go the house.
theman plays nowman theman gothehouse

Figure 13. Jirat, October 16-17: Native language structural carryover

By the middle of October most children were writing four page stories on their own. With guidance, Jirat wrote and illustrated two stories. The text for the first story took eight days to write (see Figure 14). Jirat's story was about a zoo. His second story was much shorter on the topic of kites.

English writing	English transcription
page one	
jirat lockThe oo lock the boy *seesthepeotthe f*	*Jirat look the zoo.* *Look the boy sees the* *sheep at the*
page two	
the boy sees themauisplamy *thethree*	*The boy sees the monkey* *play my tree.*
page three	
TheboyseeThelive *theJirat rod venisun*	*The boy sees the lion.* *Jirat run the rain.*
page four	
the Jiratplaytheking	*Jirat plays the kite.*

Figure 14. Jirat, October 18-31: Multi-page story with native language structural carryover

I was encouraged to see Jirat's progress in writing during these two months. His use of Thai writing as well as his use of invented spelling allowed him to communicate his ideas. At this point, Jirat was transfered to the lower-level English classroom. Jirat continued to write with enthusiasm, using invented spelling freely.

Case Study Three

Paul, a Korean boy at age 6 years 1 month, entered the EFL self-contained classroom with limited English skills. He had an English speaking vocabulary of about 100 words. In the initial assessment tests (see Tables 2, 3, 4, and 5 for comparisons) Paul was able to write 26 out of 26 lower case letters correctly and 26 out of 26 upper case letters correctly. Paul identified 16 out of 26 sounds (62%) correctly. He correctly identified 181 out of 250 sounds (72%) for the first quarter. Paul was unable to follow along for the initial first grade sight word recognition list. When retested individually with a shorter version on the following day, he scored 36 out of 40 (90%).

Paul was initially placed in a lower-level EFL classroom; however, Paul was transferred to my classroom the second week of school. Paul was very resistant to writing. He became frustrated and cried easily, even when copying a few sentences off the board. Paul's behavior was often unpredictable, and I needed to use a reinforcement system to have him draw and write. He loved to speak in English but generally would not write his spoken message on paper. He seemed to prefer to copy words, phrases, or sentences out of a book onto his stories, even if there was no correlation. Paul would draw pictures on one topic and write about other topics, often including stilted sentences in which he connected words together that he could spell. Paul's first draft (August 28) was a drawing covered over with scribbling and the message:

Paul
PGV
WVZ

He read this first as *Robot cop play with Paul.* The following day it was read as *Paul plays with robot cop.*

Paul's next draft (August 29 - 31) was a drawing of a boat and rockets. In the conference he told an exciting story about good guys and bad guys. I asked him to write that. He sat, arms crossed, for 20 minutes. When I came back to him, I asked him if he would write his story with me, and he readily agreed. I asked him to repeat his story, but he would not tell anymore about the good and bad guys. Instead, he replied "Here have no people." As I sounded out his sentence, he wrote *herhvnopml*.

In subsequent stories in September Paul wrote little or none on his own but wrote more with guided writing. He sometimes drew boxes around words to separate them (Figure 15). With guided writing Paul showed knowledge of sound to letter correspondence (*Zas hLCOPTr smll = This helicopter small!*) but on his own his writing showed less sound knowledge (*Tstorgg = This is a good guy!*).

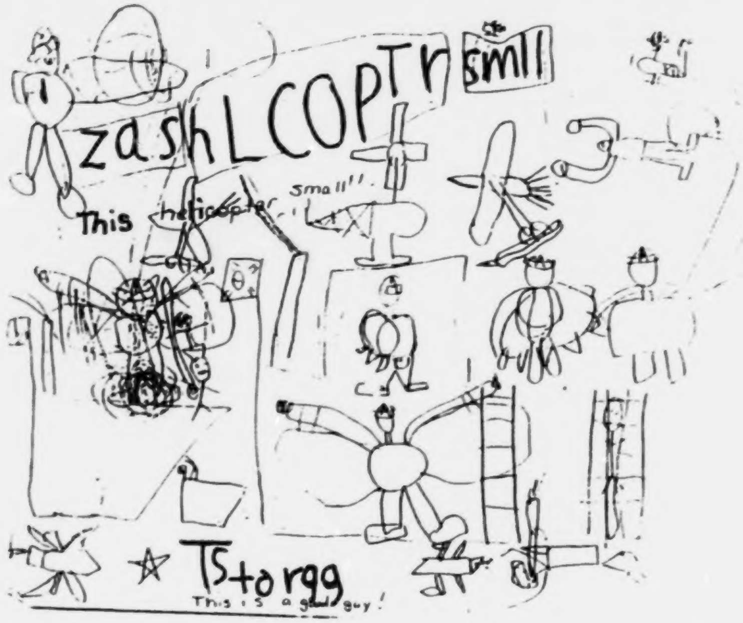

zashLCOPTr smll
This helicopter small!!
Tstorgg
This is a good guy!

Figure 15. Paul, August 31, September 3-4: Words inside of boxes

Paul began to write sentences with words taken out of the reading basal. For example, *He likestoread* was written on his story about a lion. Even with basal copying, he could not always read his story consistently. For example, he wrote *to read the in likes* and read it as *The in like to read*. During the conference, he added that the story was about a cat and mouse and helped my teacher's aide correct the transcription (see Figure 16).

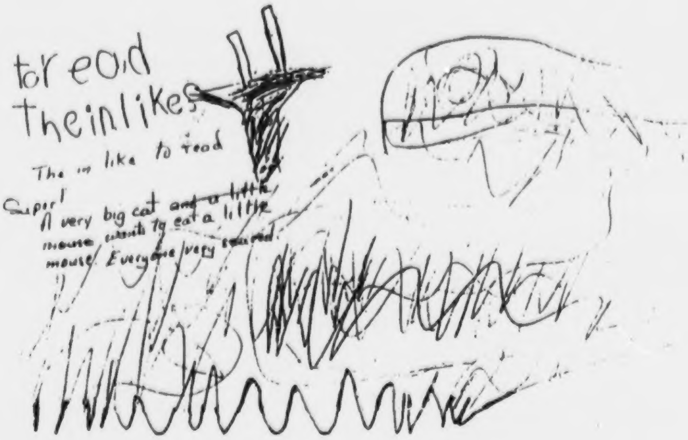

toread
Theinlikes
The in like to read
Super!
A very big cat ~~and a little~~
~~mouse~~ wants to eat a little
mouse. Everyone very scared.

Figure 16. Paul, September 6-7: Writing with words from the basal and editing the teacher's transcription

The following day Paul drew and colored a beautiful picture of a flower and butterflies. His text (*cantoread thetoDon*) was a direct reflection of words copied out of his basal. During my conference with him I wrote a message, and after I left he responded (see Figure 17).

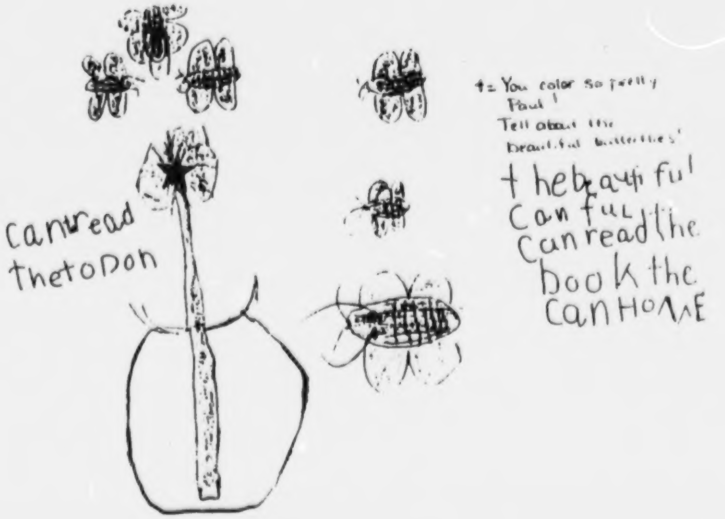

T= You color so pretty Paul!
Tell about the beautiful butterflies!
thebeautiful
Canful
Canreadthe
book the
CanHOME
Canread
thetoDon

Figure 17. Paul, September 10-11: Basal copying on a non-related picture

Paul continued to write this way, using most of his time to draw and scribble. Many of his texts were about books (*Do have a Look book, heisreadthehega book,* and *hest henp?book?look*). He separated words with boxes when words were scattered all over the page (see Figure 18).

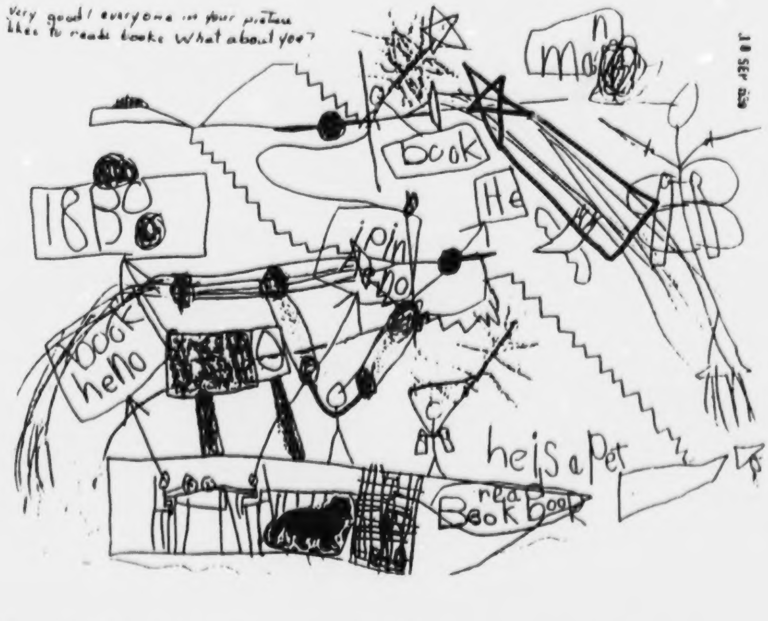

Very good! everyone in your picture likes to read books. What about you?
man
book
He
IBB
ipin
heno
book
heno
heisaPet
read
Book Book

Figure 18. Paul, September 18: Basal copying in boxes

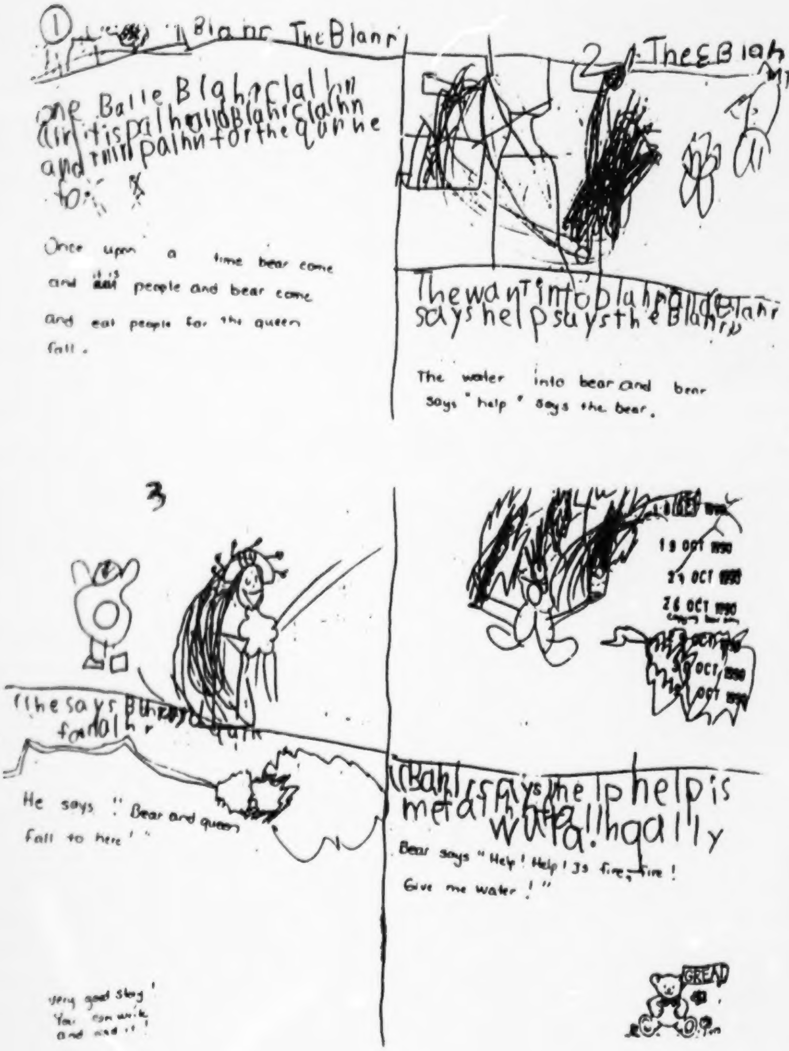
Paul's October stories used less basal copying and more invented spelling. During conferences he would get frustrated when asked to read; rather, he wanted to tell the story. He had difficulty reading his texts consistently. He continued to randomly use letters or string together words (*bookkoobneeLee*) unless directly guided:

youbowenm
heSemenyz
heSenebiSneenyzyz

Paul would have days in which he seemed to enjoy writing, and other days he would not even draw. The reinforcement system was continually modified to try to encourage Paul's best behavior. Paul's good writing was continually praised. By November he wrote with more invented spelling, and began to get his good ideas down on paper (see Figure 19).

Paul's invented spellings began to show patterns. when he was unsure of a spelling, he would often create a word with a vowel-consonant-vowel pattern, commonly "ane," "ene," or "ine" as seen in the following: *ane = ate, sane = scared, chine = children, Hene = hippopotamus, linen = light, eenere = monster, pene = pretty.*

Paul began to be able to read his own sentences: *Punen sanee hegotothe homegg ueeg.* was read as *People are shouting through the hole.* Months later, Paul's stories were increasing in length and correct spelling. When unsure of a word, he continued to use the vowel-consonant-vowel patterns. By the end of the school year (May) Paul's stories showed tremendous development. Invented spelling was very crucial to this development as it allowed him to tell his story in his own way.



Once upon a time bear come and it is people and bear come and eat people for the queen fall.

The water into bear and bear says "help" says the bear.

He says "Bear and queen fall to here!"

Bear says "Help! Help! Is fire, fire! Give me water!"

Very good story! You can write and read it!

Figure 19. Paul, October 18-31: Complete story

The following is Paul's last journal entry on May 22:

Miss Shirley if you go to Amric I will saneley you a lanele very mach so you will like it. Thene you for then me Miss Shirley. love Paul Lee. I lanenen all of woked.

Teacher transcription: *Miss Shirley, If you go to America I will send you a letter very much so you will like it. Thank you for teaching me, Miss Shirley. Love, Paul Lee I learned a lot of words.*

These three very different cases of emergent writing all show benefits of invented spelling. Whether using drawings, scribblings, basal copying, or writing inventively in their own language or English, they had a means to communicate a message. I would predict that if they had not had the chance to use whatever they felt comfortable with, they would have felt failure and not written at all. Invented spelling gave them a starting point for success.

Additional Case Studies

The following 12 children are those from the longitudinal study. Of interest are their invented spellings and overall writing strategies. I noticed that as well as inventing spelling, many children seemed to be inventing punctuation. The many figures point out unique as well as common characteristics in their writing, reflecting the students' growing knowledge of written English. As in the first three case studies, a "t" will denote the teacher's response. Most figures have been reduced between 66% and 85% in order to best fit on the pages.

Conventional Speller: Hiu Pong

Hiu Pong, a Chinese boy, was hesitant to begin writing. He spent much time looking in dictionaries to find correct spellings, a strategy which allowed him to spell many words above the grade 1 level. He used invented spelling significantly less than his peers; in fact, I would say that Hiu Pong was the only writer in the class who truly was not an invented speller, since he correctly spelled 91% of his words during the year.

Hiu Pong experimented with grammatical patterns; for example, *The He* was initially frequently used for *He* (see Figure 20).

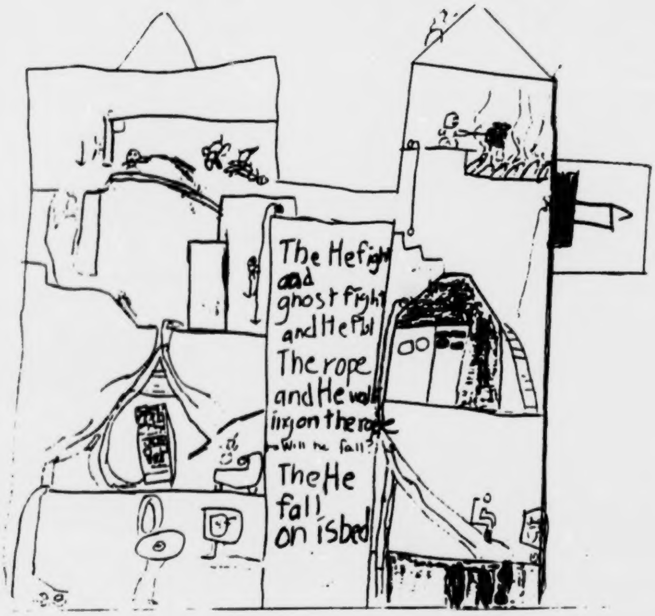
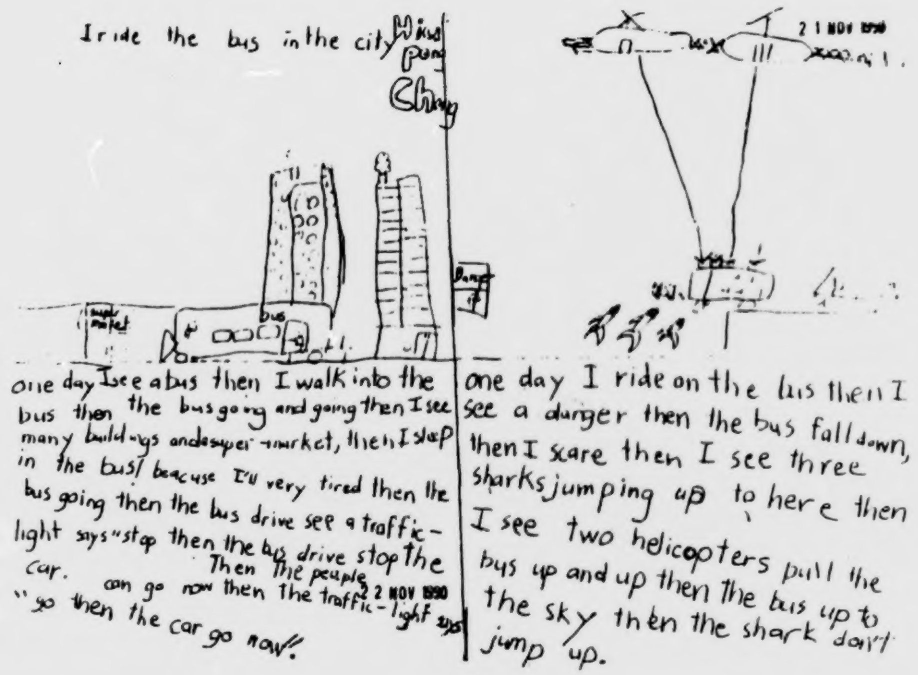


Figure 20. Hiu Pong, September 11: Grammatical pattern *The He*

When adding text to cartoon strips of sequenced pictures, Hiu Pong often wrote about each picture individually, not connecting the pictures into a story. He used the words *and* and *then* to connect his ideas into sentences, with many sentences a page long. Hiu Pong used patterns repetitiously. For example, there were stories in which each new page started with *one day* (see Figure 21). Gradually Hiu Pong was able to connect his ideas and show more fluency in his writing. Hiu Pong experimented with punctuation marks, using them more consistently in later months.



I ride the bus in the city

one day I see a bus then I walk into the bus then the bus going and going then I see many buildings and super-market, then I sleep in the bus! beacuse I'll very tired then the bus going then the bus drive see a traffic-light says "stop then the bus drive stop the car. Then the peuple can go now then the traffic-light says "go then the car go now!!

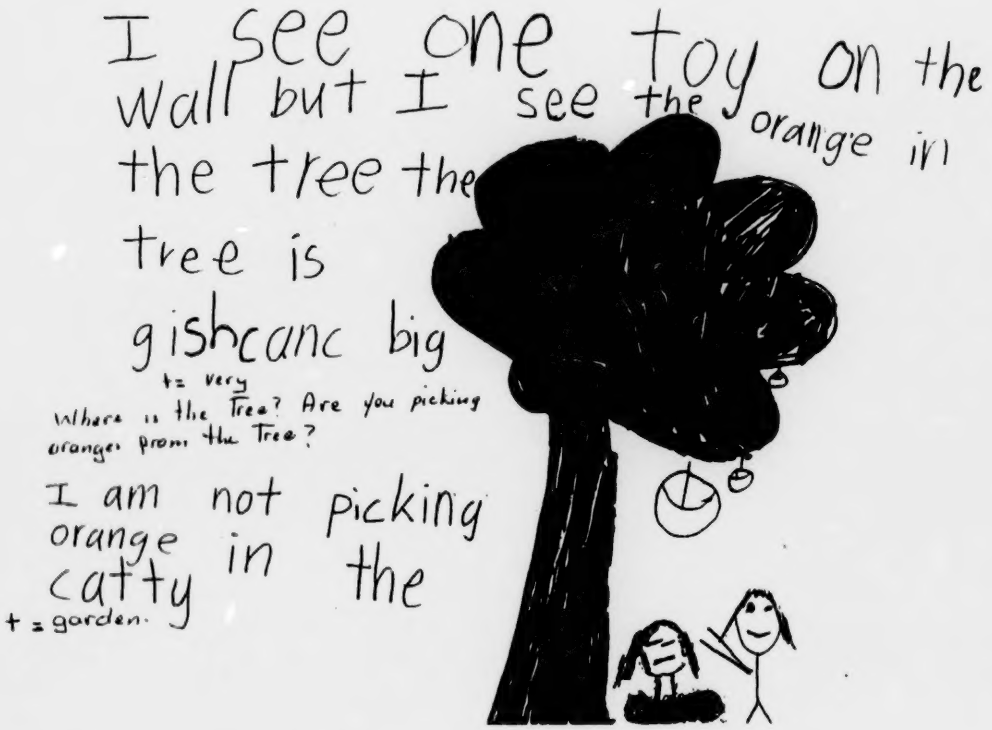
one day I ride on the bus then I see a durger then the bus fall down, then I scare then I see three sharks jumping up to here then I see two helicopters pull the bus up and up then the bus up to the sky then the shark don't jump up.

Figure 21. Hiu Pong, November 21: Repetitive page starter *one day*

Conventional Speller: Tracy

Tracy, a Chinese girl, used the second least amount of invented spelling. She began writing with safe sentence patterns which she had learned before entering the classroom. Gradually, Tracy began to abandon her safe spellings and use invented spelling, often in the prephonetic and semiphonetic stages (*keuye = high, catty = garden, pluy = fell, sieetse = children, hinnzazinvig = hungry*) to place-hold meaning rather than stand for a phonetic representation of the word (see Figure 22).

Tracy experimented with punctuation early. If I would end a written response with an exclamation mark, she would add exclamation marks. If I asked a question, she would answer using question marks, imitating my patterns (see Figure 23).



I see one toy on the wall but I see the orange in the tree the tree is gishcanc big

t= very

Where is the Tree? Are you picking oranges from the Tree?

I am not picking orange in the catty

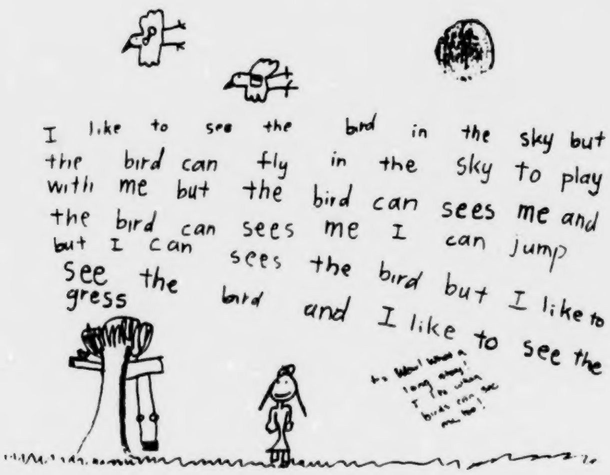
t = garden.

Figure 22. Tracy, September 11: Prephonetic spelling

Tracy:	*I like to sit on the cow.*
Teacher:	*Where is the cow?*
Tracy:	*The cow is in the room?*
Teacher:	*Who else is sittin on a cow?*
Tracy:	*My borer is sitting at cow?*

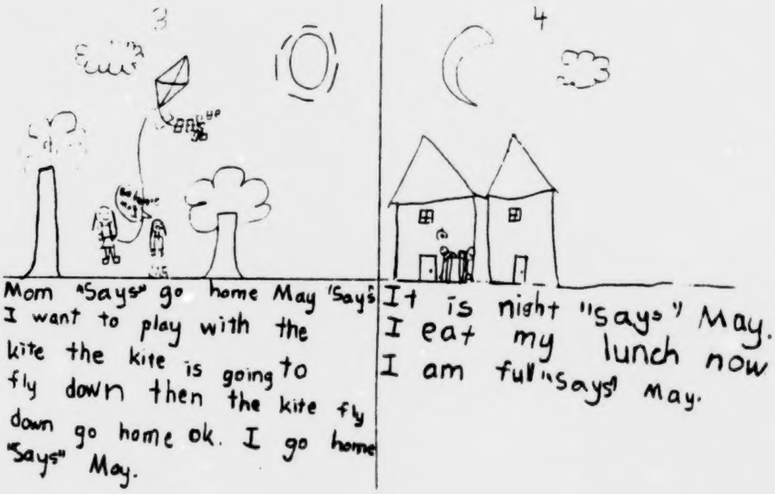
Figure 23. Tracy, August 30-31: Imitating punctuation marks

Within the first month, Tracy developed from writing isolated sentences to writing whole paragraphs, often with much repetition (see Figure 24). When Tracy observed in her reading that direct speech needed quotation marks, she also experimented with these (see Figure 25). By the end of the year, Tracy was able to use direct speech well and less repetition (see Figure 26).



I like to see the bird in the sky but
the bird can fly in the sky to play
with me but the bird can sees me and
the bird can sees me I can jump
but I can sees the bird but I like to
See the
gress bird and I like to see the

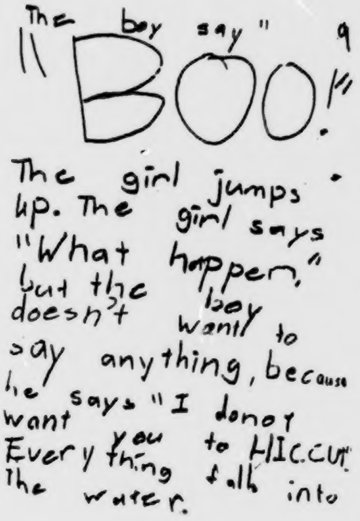
Figure 24. Tracy, September 10: Idea repetition



Mom "Says" go home May "Says"
I want to play with the
kite the kite is going to
fly down then the kite fly
down go home ok. I go home
"Says" May.

It is night "says" May.
I eat my lunch now
I am full "says" May.

Figure 25. Tracy, November 6: Experimental punctuation marks



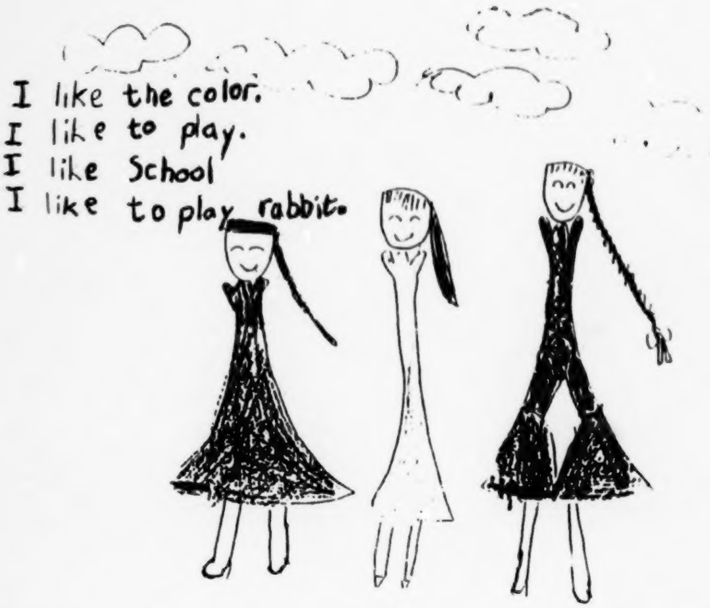
The boy say "
"BOO!"
The girl jumps.
up. The girl says
"What happen."
but the boy
doesn't want to
say anything, because
he says "I donot
want you to HICCUP
Everything falls into
the water.

Figure 26. Tracy, May 16: Overall fluency

Conventional Speller: Alice

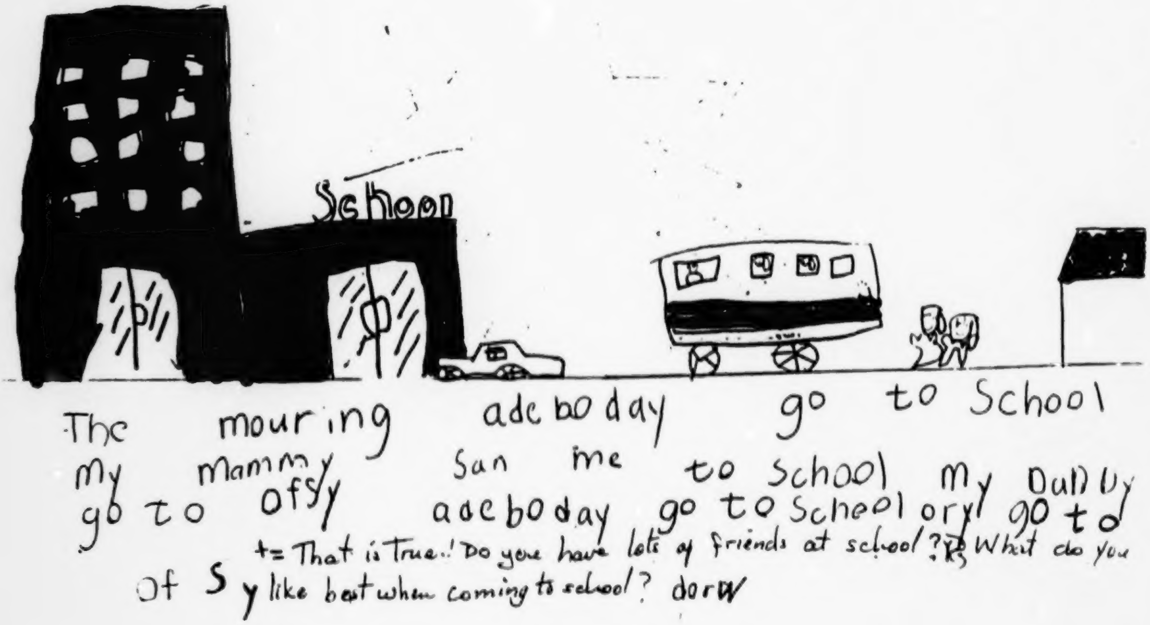
Alice, a Chinese girl, used the third least amount of invented spelling. However, a significant difference was noted in her writing between month one in which she only used 14% invented spelling and month two in which she used 45% invented spelling. It seemed that like many others, Alice came into the classroom with her "safe English." Her first month of stories were similar, generally using the *I like* or *I like to* patterns (see Figure 27).

Her sentences all began with capital letters and ended with periods. Her illustrations were not action oriented, but often showed pretty girls or houses. She began writing and drawing more creatively by month two (see Figure 28). Her invented spellings often ended in "y" patterns (*ofsy = office, ory = or, smy = some, fney = find, casoery = castle*), progressing to phonetic spellings (*colseter = closer, catso = castle, owas = always*).



I like the color.
I like to play.
I like School
I like to play rabbit.

Figure 27. Alice, August 29-30: Simple *I like* sentence pattern

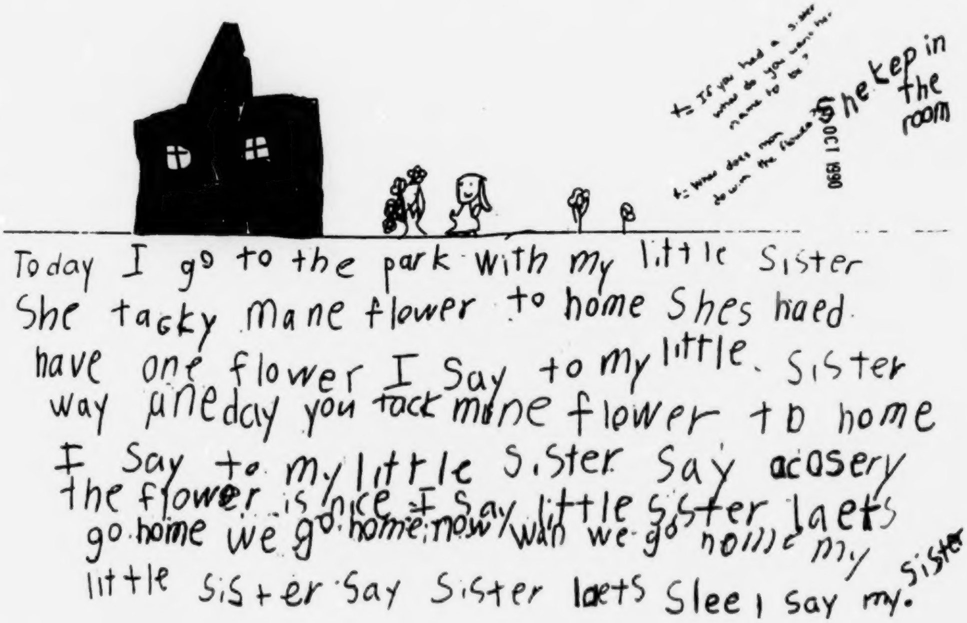


The mouring adcboday go to School
my mammy san me to School my Dadly
go to ofsy adcboday go to School ory go to
Of S y

t = That is True..! Do you have lots of friends at school? What do you like best when coming to school? dorW

Figure 28. Alice, September 19-20: Invented spelling and creative text

At times in the third month Alice would start out stories with punctuation, but generally used no punctuation (see Figure 29). It is interesting to note how Alice, as well as other students, gradually dropped punctuation and capitalization patterns as they began to focus more on the content of their stories. By month seven and eight, Alice used some complex patterns in her sentences (see Figure 30).


t: If you had a sister what do you want her name to be?
t: where does mom [illegible] down the flower
OCT 1990

She kep in the room

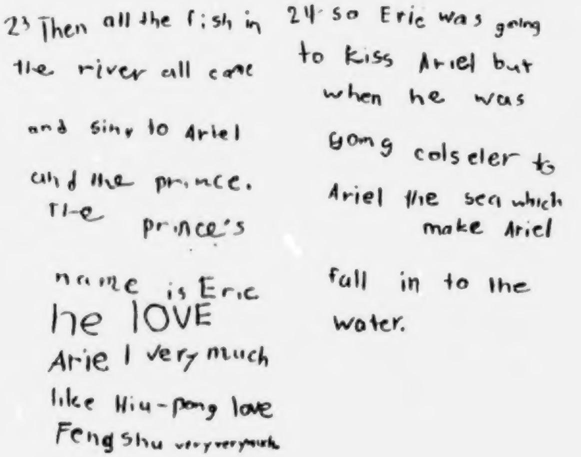
Today I go to the park with my little Sister
She tacky mane flower to home Shes haed
have one flower I Say to my little. Sister
way uneday you tack mine flower to home
I Say to my little Sister Say acosery
the flower is nice I Say little Sister laets
go home we go home now/ wan we go home my
little Sister Say Sister laets Slee I say my. Sister

Figure 29. Alice, October 10-11: Story with little punctuation

There is many things that she found in the sea that she live in.
He is very handsome isn't he?
But the prince's dog name Mike is still in the boat.
When she found him he was sleeping.
Sea witch will make her into a person.
Then the prince talked to a boy that is the prince's best friend.

Figure 30. Alice, April and May: Examples of complex sentence patterns

In months seven and eight, she retold and illustrated the story of The Little Mermaid with over 800 words (see Figure 31). Her illustrations were action oriented and her story was exciting. Despite grammatical errors expected of first grade ESL students, her language showed considerable fluency in retelling the story.



23 Then all the fish in
the river all came
and sing to Ariel
and the prince.
The prince's
name is Eric
he lOVE
Ariel very much
like Hiu-pong love
Feng Shu very very much

24 so Eric was going
to kiss Ariel but
when he was
going colseler to
Ariel the sea which
make Ariel
fall in to the
water.

Figure 31. Alice, May 6: Overall fluency

Middle Group Student: Kang Chieh

Kang Chieh, a Chinese boy, began writing with short sentences. He spent a lot of time drawing, and rarely left any white space left on the paper! He liked to use speech bubbles (see Figure 32). In the first four months Kang Chieh's invented spellings were often at the semiphonetic stage (*He roonm tam This chanmrN = He will take this children.*). In the last four months, most of the invented spellings were at the phonetic stage (*noe = know, lisneing = listening, tadde = Teddy*), showing improvement in overall spelling development.

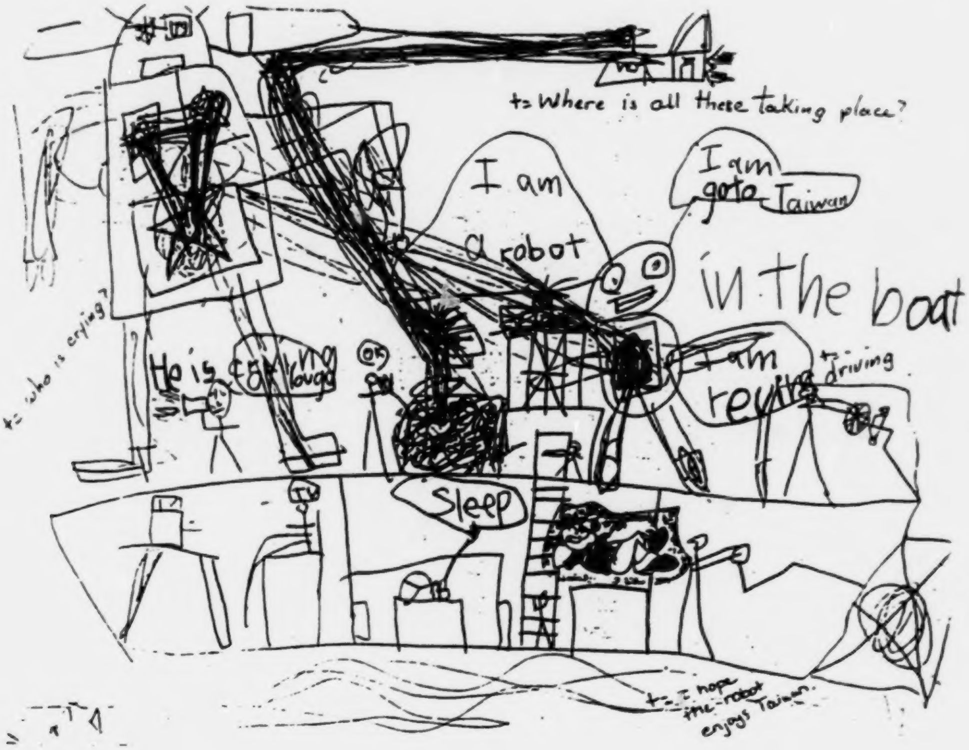


Figure 32. Kang Chieh, September 11-12: Speech bubbles

By month three, he seemed to use punctuation only at the end of the page, resulting in a large amount of run-on sentences. Starting around month six (see Figure 33), punctuation came back into the writing. This punctuation change was frequently seen in many of the children.

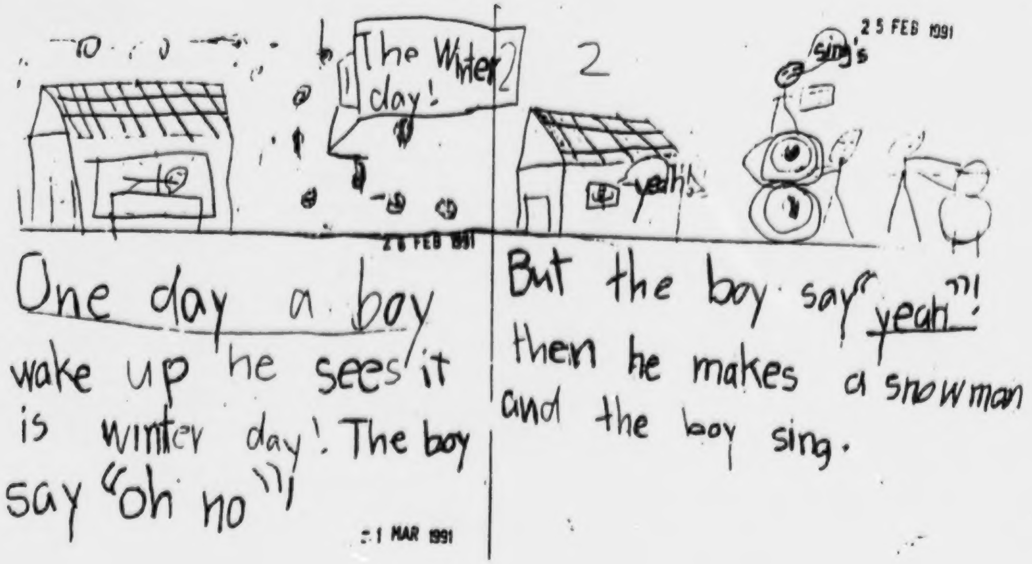
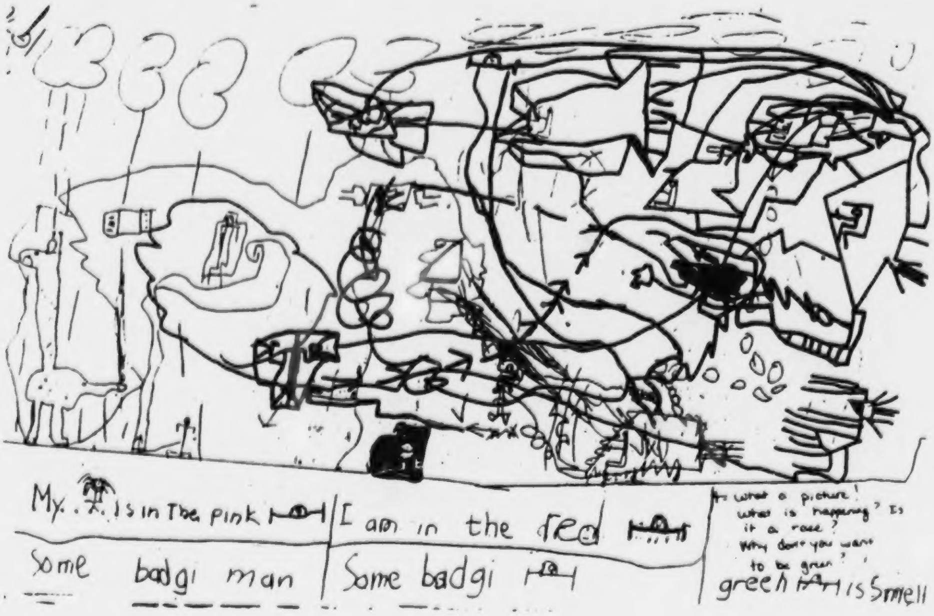

1
The Winter day!
2
2
yeah!
sing's
25 FEB 1991
26 FEB 1991
One day a boy wake up he sees it is winter day! The boy say "oh no"!
1 MAR 1991
But the boy say "yeah"! then he makes a snowman and the boy sing.

Figure 33. Kang Chieh, February 26 and March 1: Punctuation development

Middle Group Student: E Jei

E Jei, a Chinese boy, spent much of his time drawing rockets and airplanes. He wrote about good guys and bad guys for every story during the first month, often in the second month, and periodically in later months. When he did not know how to spell a word, he sometimes drew pictures instead (see Figure 34). Initially, his invented spellings were in the phonetic spelling stage (*gi = guy, exsirsis = exercise, dinosur = dinosaur*). By the end of the year, E Jei had made much progress (see Figure 35). For one story, E Jei used speech bubbles and pictures on the front and wrote the same text in the form of a play on the back side of the paper (see Figure 36).



My . . . is in The pink

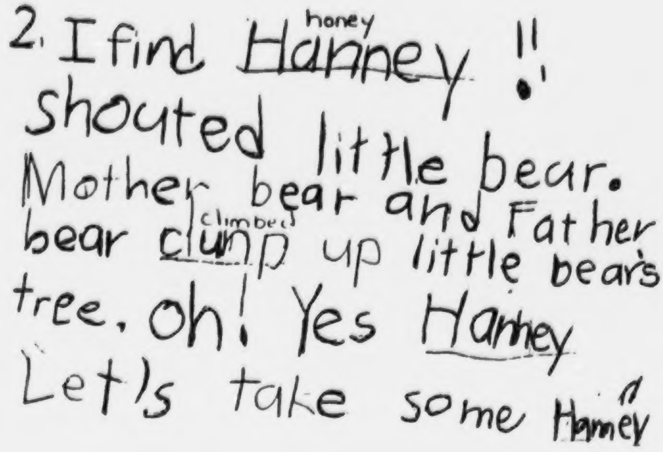
I am in the red

Some badgi man

Some badgi

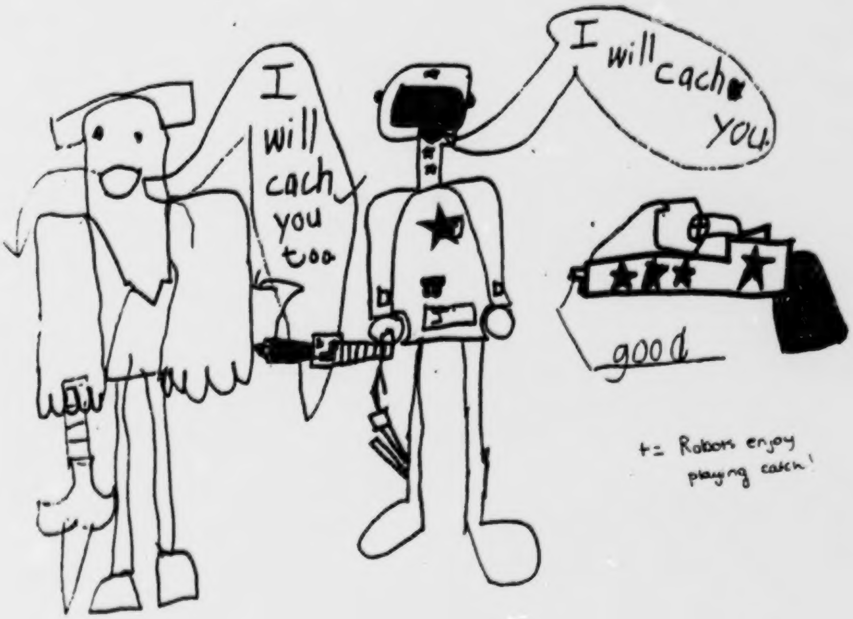
what a picture!
what is happening? Is
it a race?
Why don't you want
to be green?
green is Smell

Figure 34. E Jei, August 21-24: Pictorial representations



honey
2. I find Hanney !!
shouted little bear.
Mother bear and Father
climbed
bear clunp up little bear's
tree. Oh! Yes Hanney
Let's take some Hamey

Figure 35. E Jei, April 29: Overall fluency



t= Robots enjoy playing catch!

Robot: I will cach you man.
man: I will cach you too Robot.
~~finesh~~ fenish

t= Why will the robot catch the man?
The man hrt
the hand

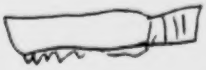


Figure 36. E Jei, September 27: Speech bubbles and writing in the form of a play

Middle Group Student: Hoa Jung

Hoa Jung, a Korean girl, enjoyed using speech bubbles and writing long stories, often with much repetition (see Figure 37). She was very artistic. Hoa Jung, like other students, often separated sentences in boxes (see Figure 38). Hoa Jung's invented spellings were generally phonetic and often reflected her ability to discriminate sounds (*helrow = hello, bary = very, hiyou = here, bradorll = brother, gef = give, soocayor = scared*). She used "invented punctuation," experimenting with question marks and exclamation points (see Figure 39).

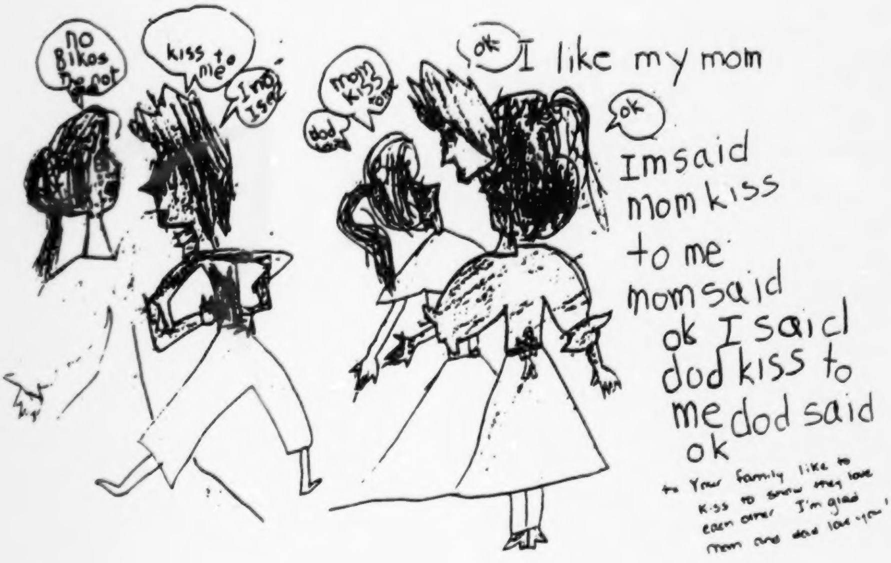
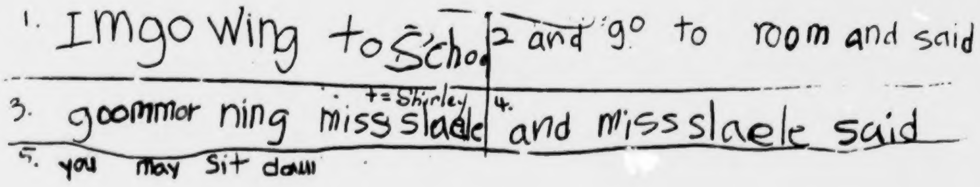
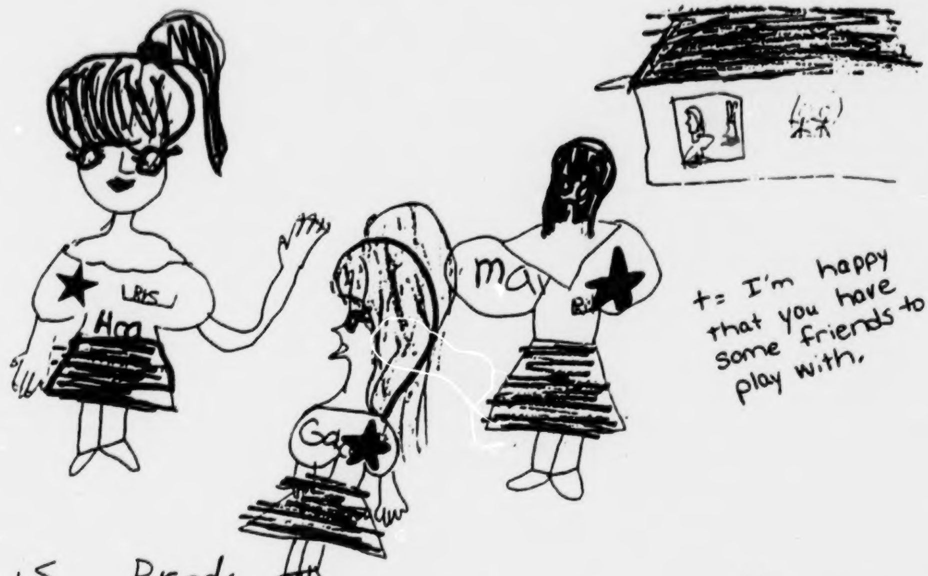

no Bikos Ine not
kiss to me
I no Isse
mom kiss to me
dod kiss
ok
I like my mom
ok
Imsaid mom kiss to me mom said ok I said dod kiss to me dod said ok
to Your family like to kiss to show they love each other. I'm glad mom and dad love you!

Figure 37. Hoa Jung, September 3-4: Repetition in speech bubbles



1. Imgowing to Schoo
2 and go to room and said
3. goommor ning miss slaele
+= Shirley
4. and miss slaele said
5. you may sit dowl

Figure 38. Hoa Jung, September 21: Sentences in boxes

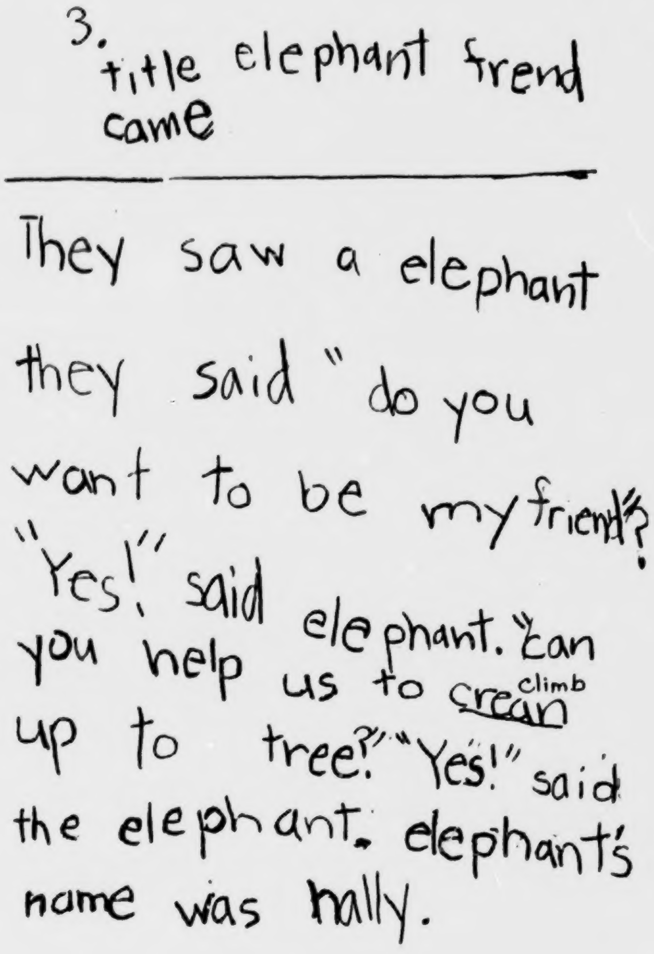


+= I'm happy that you have some friends to play with.

is Break toim and im paly the my fiand and! the? my? fiand are name is! a may and Gokcc and IM happy yo,o. tag you,

Figure 39. Hoa Jung, September 25: Invented punctuation

During month three, Hoa Jung wrote an eight page story. Although she used much repetition, the length of her stories exceeded the length of peers' stories. She didn't draw much by this month on her rough drafts, but drew illustrations when she recopied her stories into booklets. Her writing in month eight showed her growing knowledge of written English (see Figure 40).



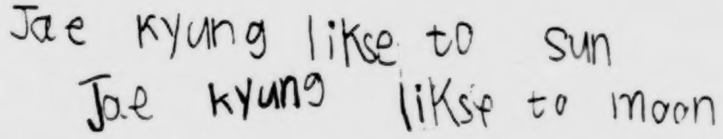
3. title elephant frend
came

They saw a elephant
they said "do you
want to be my friend?
"Yes!" said elephant. "can
you help us to crean climb
up to tree?" "Yes!" said
the elephant. elephant's
name was hally.

Figure 40. Hoa Jung, May 9: Overall fluency

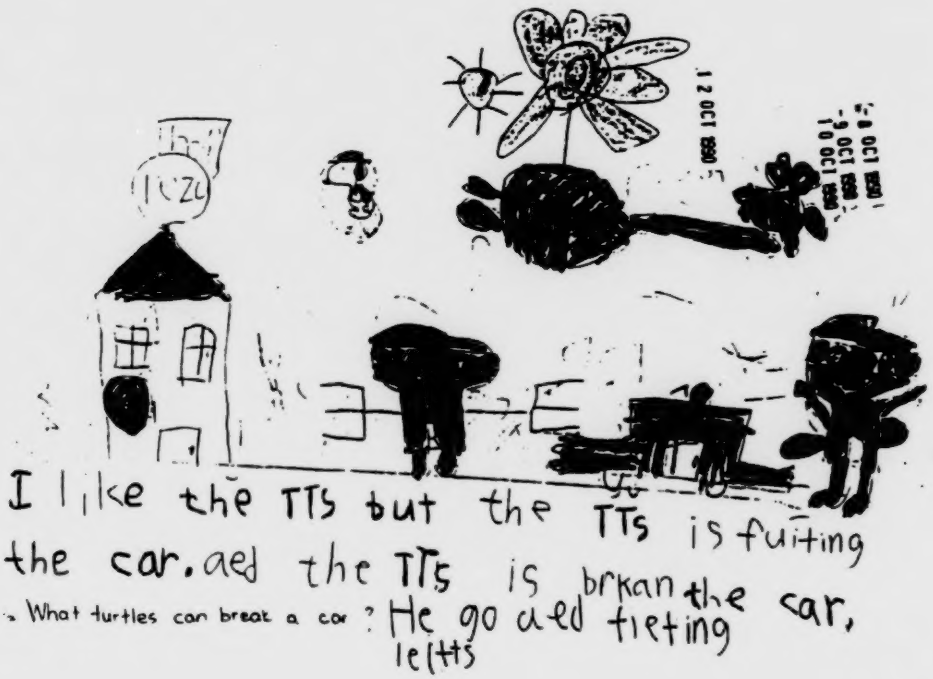
Middle Group Student: Jae Kyung

Jae Kyung, a Korean boy, knew some simple sentence patterns when he came into the classroom. Most of his sentences in the first few months began with *I like*, although he seemed to struggle with grammar (see Figure 41). Jae Kyung's invented spellings were mainly in the semi-phonetic (*Fdr hP = Father help, sgso = sing song, TTS = turtles, brkan = broken*) and phonetic stages (*fuiting = fighting*) (see Figure 42).



Jae Kyung likse to sun
Jae kyung likse to moon

Figure 41. Jae Kyung, August 21-22: Simple sentence patterns



I like the TTS but the TTs is fuiting the car. aed the TT5 is brkan the car, He go aed fieting

What turtles can break a car ? lefts

Figure 42. Jae Kyung, October 8-12: Invented spelling

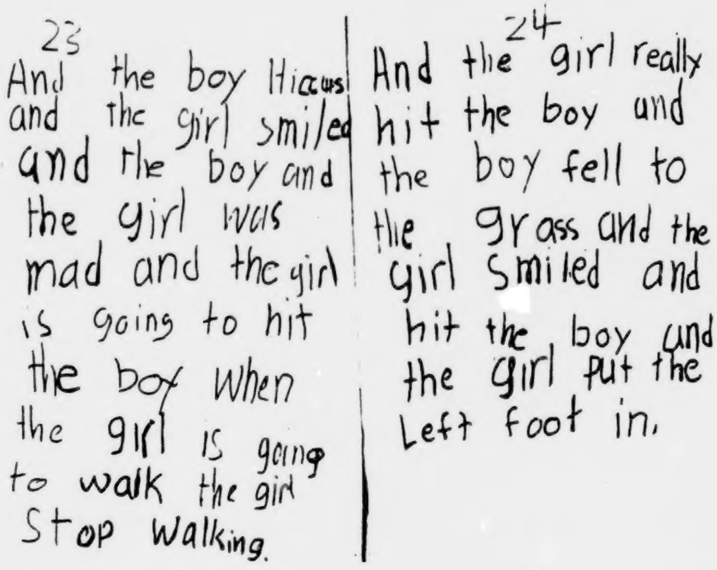
Jae Kyung's invented spellings gradually decreased. Jae Kyung had trouble writing stories that flowed. Jae Kyung spent 5 days in November writing the story below. The spelling has been edited to help the flow:

> One day the scissors is cut out the paper then the other knife is good then the knife is again not good then the other knife is very good then the spoon is not good very much then the spoon is good then the other knife is come to the scissors then the scissors is sad.

I worked with Jae Kyung often on fluency, often adding clarity and length to stories. In my own journal the first week of November I wrote:

> His stories are repetitive, very choppy, and show limited story flow. He doesn't explain what happened. I think he may be writing to fill up space and not trying to really express what is happening, probably due to his limited vocabulary.

He improved in fluency, although he used much repetition (see Figure 43).



23
And the boy Hicaws
and the girl smiled
and the boy and
the girl was
mad and the girl
is going to hit
the boy when
the girl is going
to walk the girl
Stop Walking.

24
And the girl really
hit the boy and
the boy fell to
the grass and the
girl Smiled and
hit the boy and
the girl put the
Left foot in.

Figure 43. Jae Kyung, May 24: Overall fluency

Middle Group Student: May

May, a Chinese girl, added humor to everything she did. Her very first drawing shows her creativity and immediate editing skills (see Figure 44). May's initial writings included some invented spelling in which words were written backwards, particularly on the left side and the very bottom of the page (see Figures 45 and 46).

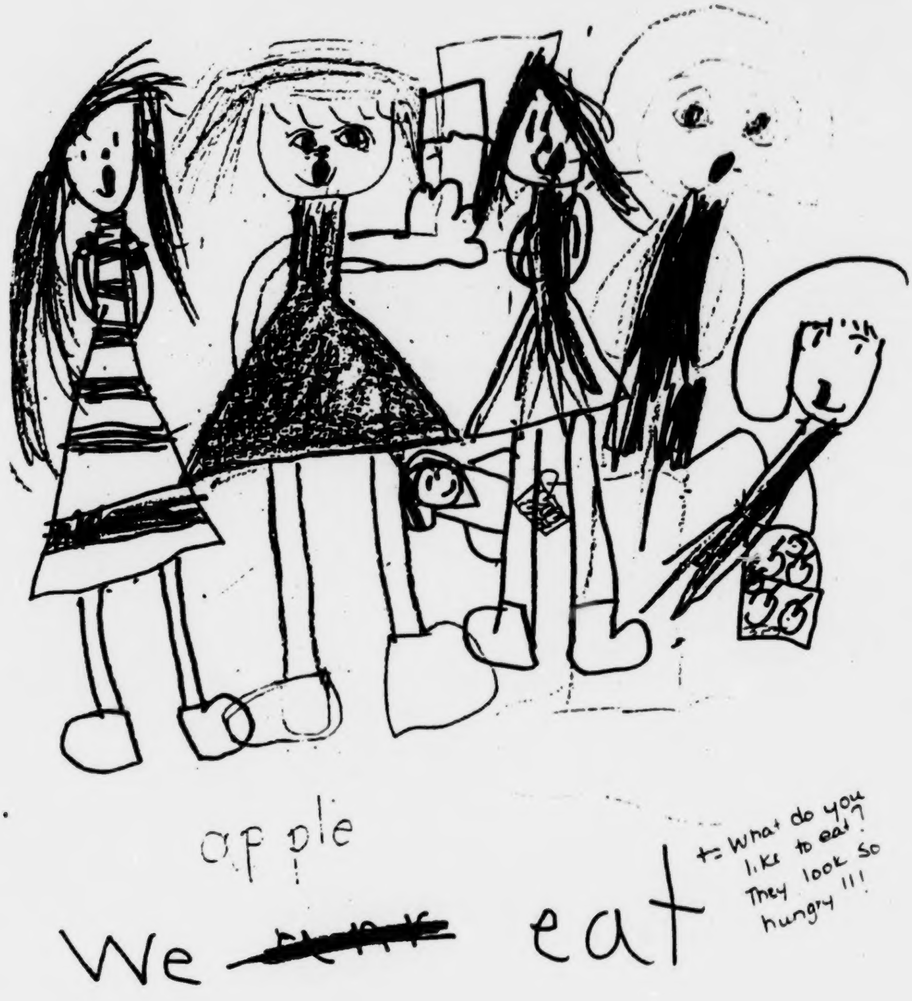

apple
We eat
T: What do you like to eat? They look so hungry!!!

Figure 44. May, August 21-22: Creativity and editing

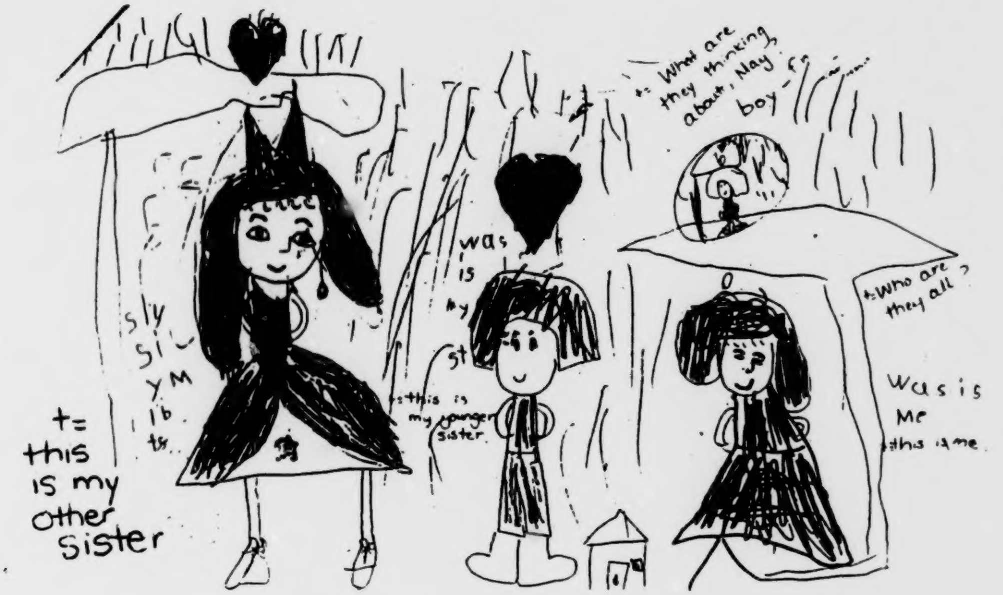

t= What are they thinking about, May.
boy
was is my st
t= this is my younger sister.
t= who are they all ?
Was is Me
t= this is me.
sly
sIu
yM
ib
ts
t= this is my other sister

Figure 45. May, August 30-31: Backwards writing on the left side

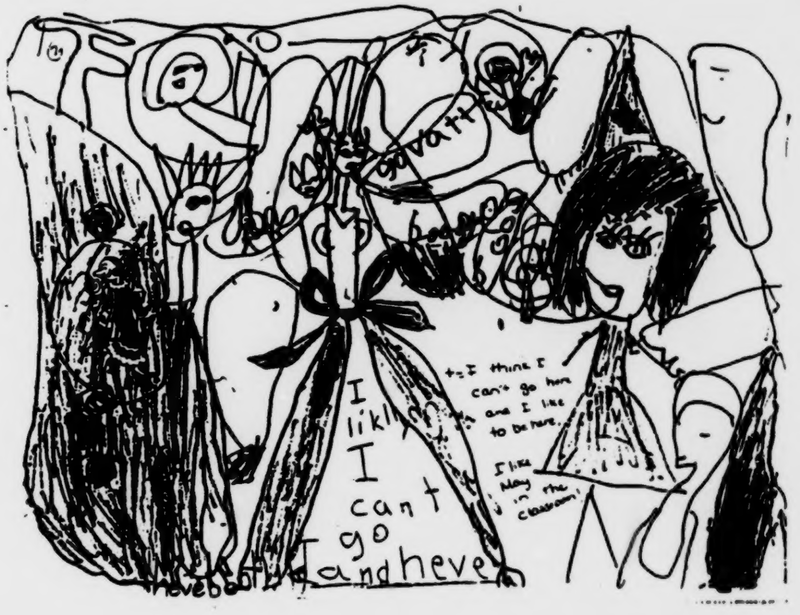

I likl
I can t go
and heve
heveb
t= I think I can't go hom and I like to be here.
I like May in the classroom!

Figure 46. May, September 11-12: Backwards writing at the bottom

At times it was difficult to follow May's stories in the speech bubbles (see Figure 47).

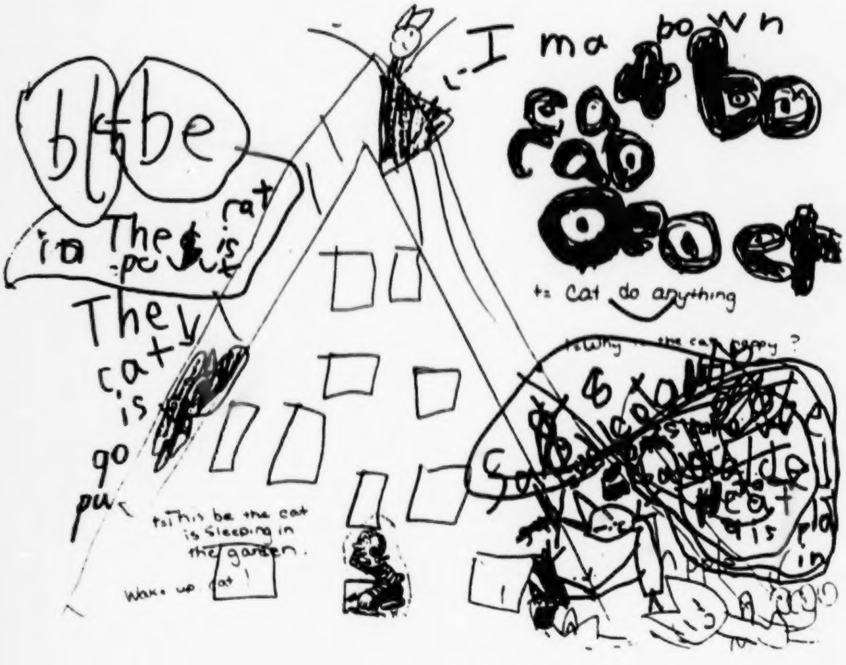
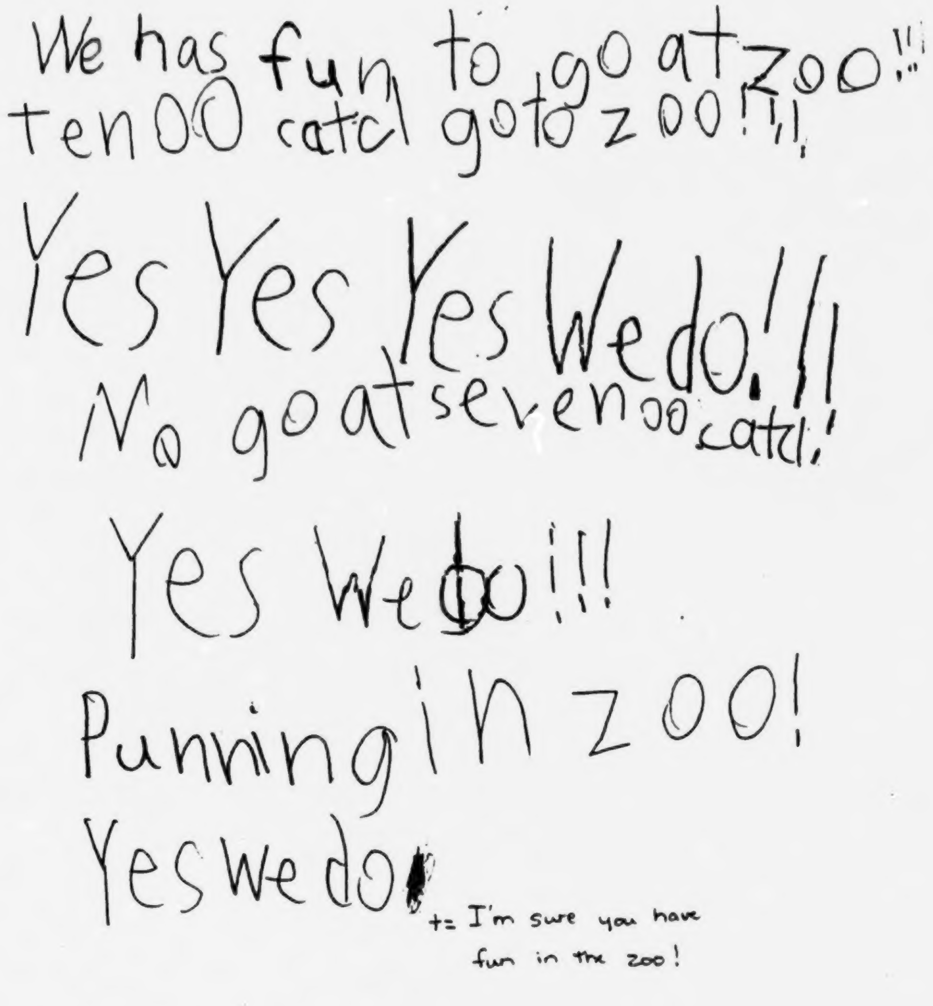

I ma bown
bl be
The cat is
in
The cat is go pu
t: This be the cat is sleeping in the garden.
Wake up cat!
t: Cat do anything
t: Why ... the cat happy ?
cat is pla in

Figure 47. May, September 10-11: Indecipherable speech bubbles

May's invented spellings were often at the prephonetic and semiphonetic stages (*sataydeyeing = started, cayla = suddenly, dunenan = because, on wok = nobody*). Even in the eighth month, May still used such strategies for her invented spelling (*ringroing = raises, caidein = climbed, hoipthephethir = hippopotamus*).

May used excessive exclamation marks in the second and third months and also invented numbers (*ten00 = ten hundred, seven00 = seven hundred*) (see Figure 48).

In the third month she began using quotation marks and frequently used direct speech (see Figure 49). May, like her peers, sometimes asked the reader multiple choice questions to encourage reader participation in stories (see Figure 50).



We has fun to go at zoo!!!
ten00 catcl goto zoo!!!
Yes Yes Yes We do!!!
No go at seven00 catcl!
Yes We do!!!
Punning in zoo!
Yes We do!

T: I'm sure you have fun in the zoo!

Figure 48. May, October 17: Excessive exclamatory punctuation and invented numbers

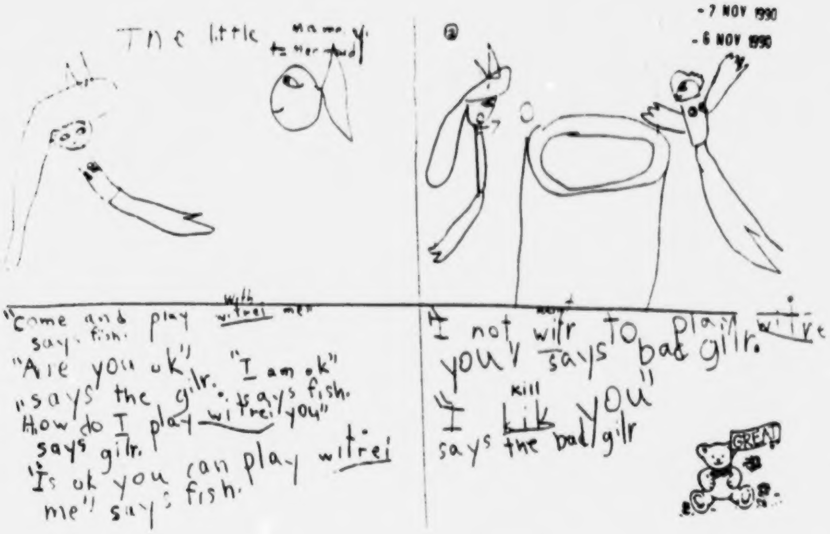

The little mame y to her fwd
-7 NOV 1990
-6 NOV 1990
"Come and play with witrei me"
say fish.
"Are you ok" "I am ok"
"says the gilr. says fish.
"How do I play witrei you"
says gilr.
"Is ok you can play witrei
me" says fish.
"I not wirt witr to play witre
you" says bad gilr.
"I kill kik you"
says the bad gilr
GREAT

Figure 49. May, November 6: Direct speech usage

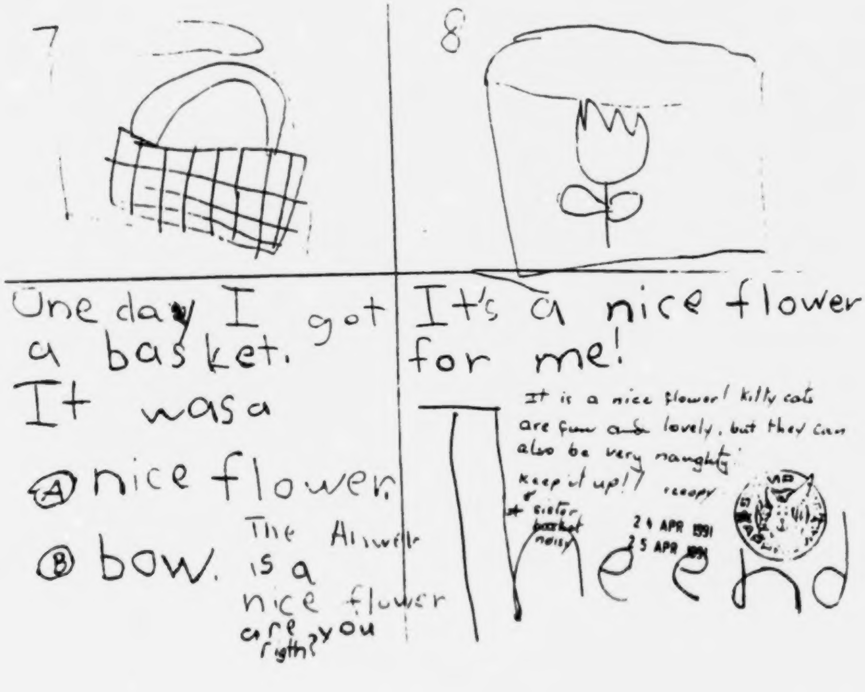


Figure 50. May, April 24: Multiple choice questions

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Middle Group Student: Xin Yi

Xin Yi, a Malaysian girl, used a considerable amount of invented spelling. She was initially very hesitant to write and needed guidance to add text to her pictures. Overall, 19% of her invented spellings were in the semiphonetic stage, often using two or more consonants which best represented the sounds (*sleepbbig bd = Sleeping Beauty, fr = fairy, th = touch, mh = much, gf = give, Pn = peanut*) (see Figure 51). Gradually more consonants and vowels were added (*hpptm = hippopotamus, sum tink = something, hping = happening, fatcs = first, itglue = igloo, neu = near, fide = fight*).

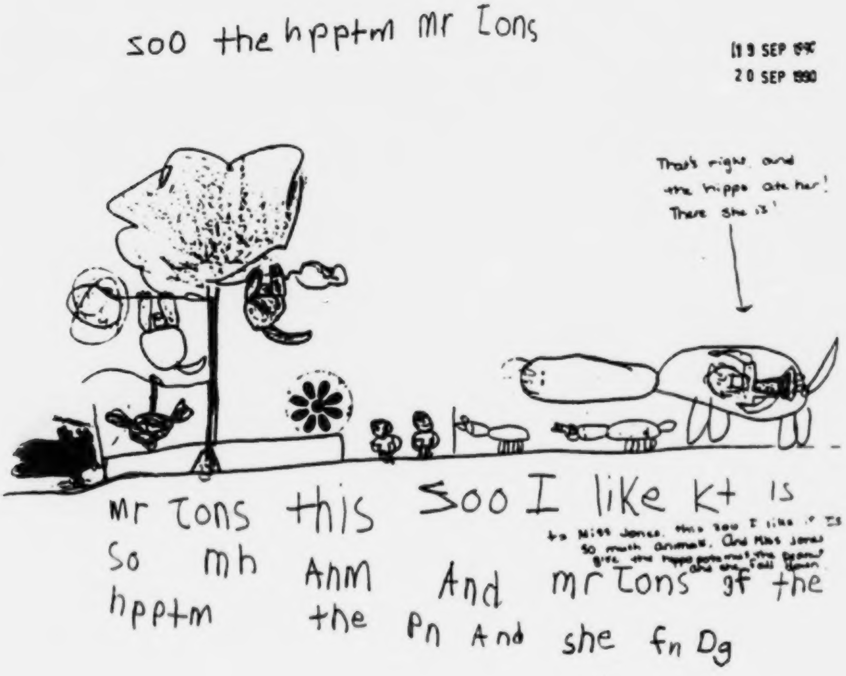
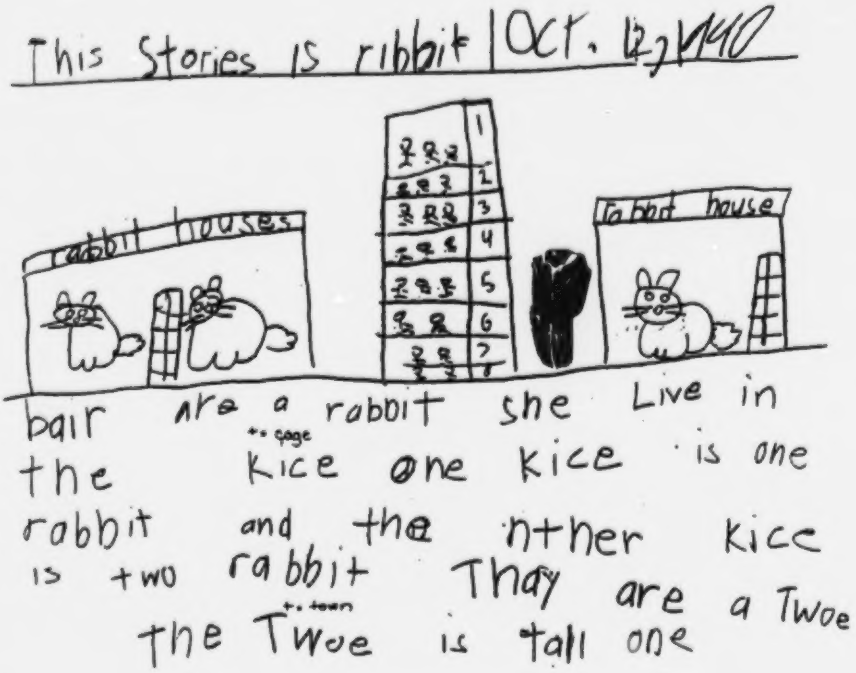

soo the hpptm mr Tons
19 SEP 1990
20 SEP 1990
That's right and the hippo ate her! There she is!
mr Tons this Soo I like kt is So mh Anm And mr Tons gf the hpptm the Pn And she fn Dg
to Miss Jones. this zoo I like it is so much animals. And Miss Jones give the hippopotamus the peanut and she fell down.

Figure 51. Xin Yi, September 19-20: Semiphonetic spelling

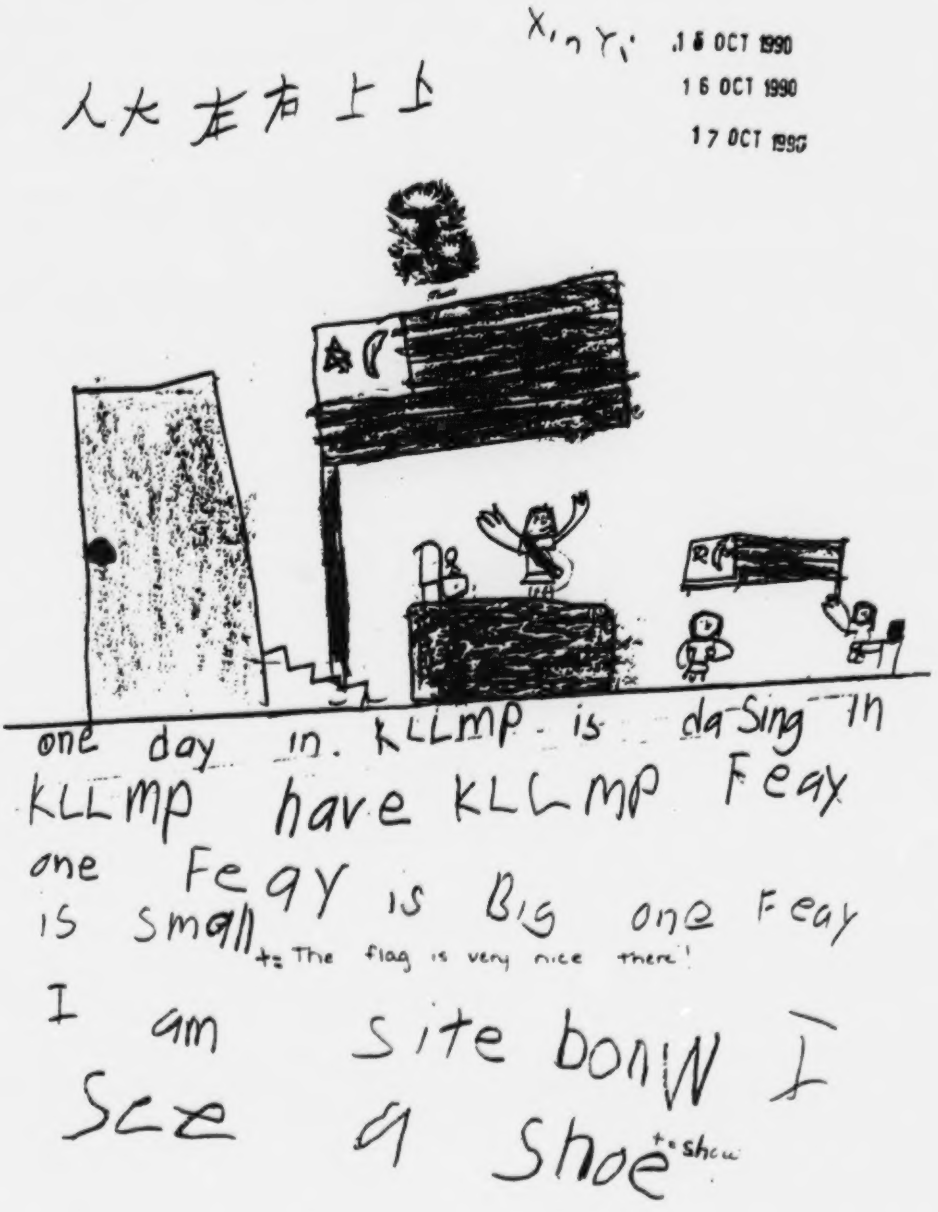
In the third month, she began to add dates and titles to her stories (see Figure 52). Xin Yi wrote some Chinese on the top of a story about the flag and show in Kuala Lumpur, the capital of Malaysia (see Figure 53). Interestingly, she used all capital letters for her invented spelling of Kuala Lumpur.



This Stories is ribbit | Oct. 12,1990

bair are a rabbit she Live in
the t. cage Kice one Kice is one
rabbit and the nther Kice
is two rabbit Thay are a Twoe
the t. town Twoe is tall one

Figure 52. Xin Yi, October 12: Date and title on a story



人大左右上上

Xin Yi

15 OCT 1990
16 OCT 1990
17 OCT 1990

one day in. KLLMP is da-Sing in
KLLMP have KLLMP Feay
one Feay is Big one Feay
is small
t: The flag is very nice there!

I am site bonW I
Sce a Shoe t: show

Figure 53. Xin Yi, October 15-17: Chinese writing and a story about the flag in Kuala Lumpur

Invented Speller: Feng Shu

Feng Shu, a Chinese girl, experimented frequently with invented spelling. In the first month she often read her writing different ways; for example, *Pal onehitns gam* was read as both *play one Chinese game* and *play one game in Taiwan*. Thus, she initially had difficulty reading her own invented spelling. She was often hesitant to write more than a few sentences for the first few months, and needed much encouragement to add words to her illustrations. After our conferences, she would add a few more sentences to her stories (see Figure 54).

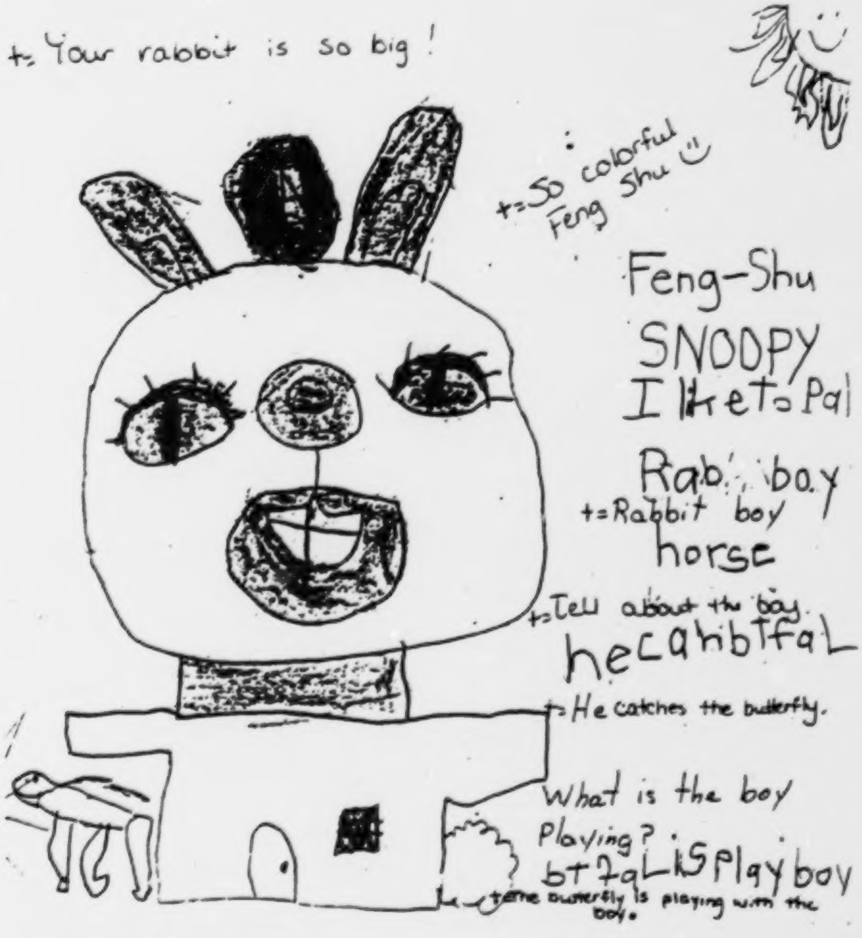
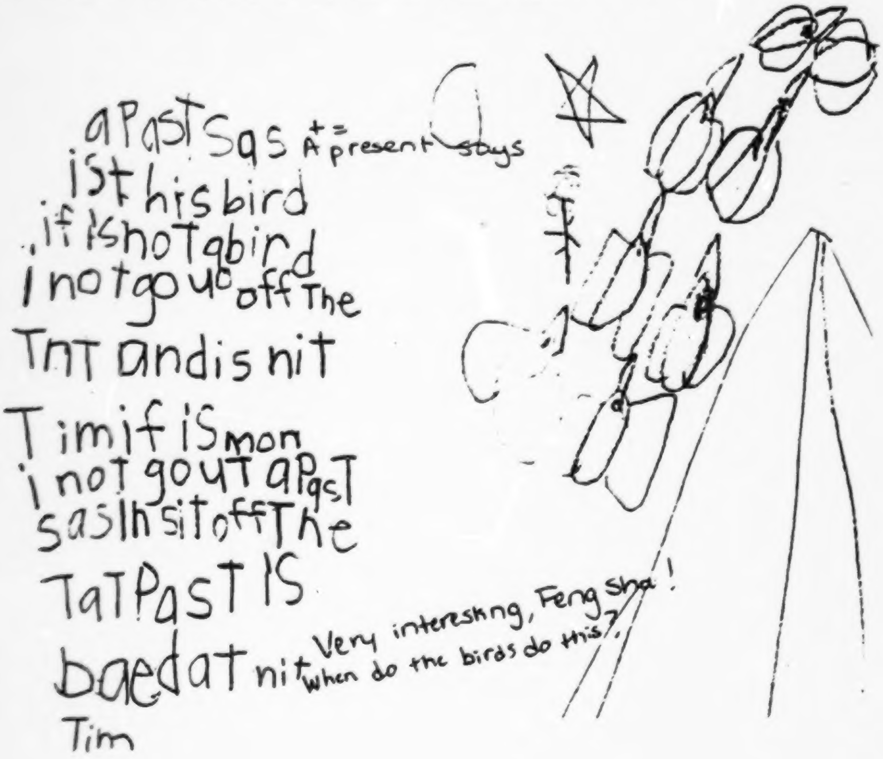

t= Your rabbit is so big!
t= So colorful Feng Shu
Feng-Shu
SNOOPY
I like to Pal
Rab boy
t= Rabbit boy
horse
t= Tell about the boy.
heCanbTfaL
t= He catches the butterfly.
What is the boy Playing?
bTfaLisPlayboy
t= The butterfly is playing with the boy.

Figure 54. Feng Shu, August 29-31: Adding text after conferences

If some stories were not transcribed, both Feng Shu and I would have trouble remembering them later (see Figure 55).

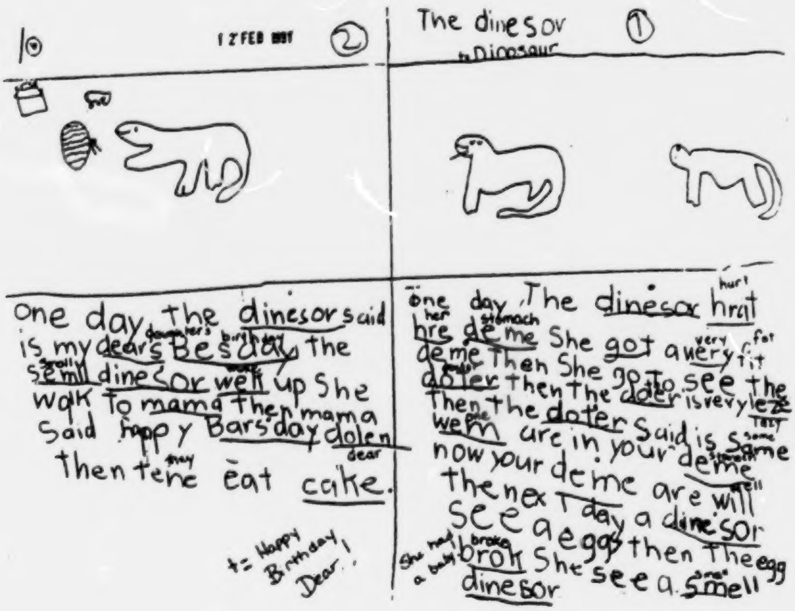


aPastSqs A present stays
isthisbird
if isnotabird
i notgo uo off The
TnT andis nit
Timif is mon
i not gouT aPqsT
sasIhsitoffThe
TaTPasTIS
baedaT nit
Tim

Very interesting, Feng Shu!
When do the birds do this?

Figure 55. Feng Shu, September 17-18: Difficulty remembering original text

In the first few months Feng Shu used some prephonetic spellings, but generally used semiphonetic and phonetic invented spellings throughout the year. In month two she began using some questions marks, and by month four she began using some exclamation marks. In an excerpt from a four page story explaining how dinosaurs have babies (see Figure 56), Feng Shu underlined words for which she wanted spelling help. I either wrote the word by it, or put a dot on top, meaning that word was already in her spelling dictionary. By the end of the year, Feng Shu had a quite developed working knowledge of English (see Figure 57).



1⊙ 12 FEB 1987 ②

One day, the dinesor said is my dears Besday, the semll dinesor well up She walk to mama then mama Said happy Barsday dolen then tene eat cake.

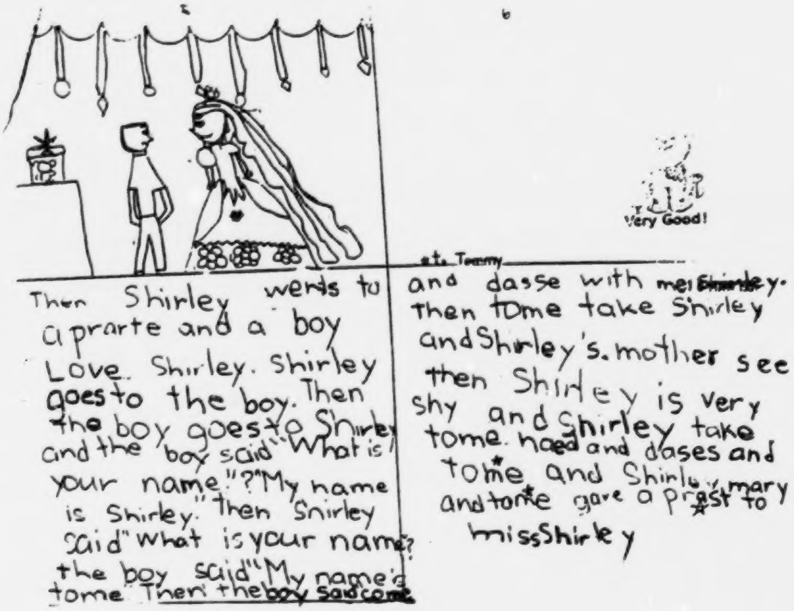
*= Happy Birthday, Dear!

The dinesor ①
= Dinosaur

One day, The dinesor hrat hre deme She got a very fit deme Then She go to see the doter then the doter is very leze Then the doter Said is Same wem are in your deme now your deme are will the next day a dinesor see a egg then The egg brok She see a smell dinesor

hurt her stomach very fat doctor lazy They some worms smell broke she had a baby small

Figure 56. Feng Shu, February 12: Underlining words for which spelling help was needed



Very Good!

Then Shirley werts to a prarte and a boy Love Shirley. Shirley goes to the boy. Then the boy goes to Shirley and the boy said "What is your name"?"My name is Shirley." Then Shirley said "What is your name? the boy said "My name's tome" Then the boy said come

and dasse with me Shirley.
Then tome take Shirley and Shirley's mother see then Shirley is very shy and Shirley take tome. haed and dases and tome and Shirley mary and tome gave a prest to miss Shirley

*= Tommy

Figure 57. Feng Shu, May 9: Overall fluency

Invented Speller: Gokce

Gokce, a Turkish girl, wrote stories which seemed the most characteristic of an invented speller. She did not begin writing with "safe sentences" but invented spelling on the first day. Her first story (*We go to ptie*), which took four days to write, was a true accomplishment (see Figure 58). Initial writings used semiphonetic spellings (*rnk = running, dw = do, gD = good, dox = dogs, sm = small*) in the first 3 months, but more phonetic were gradually used.

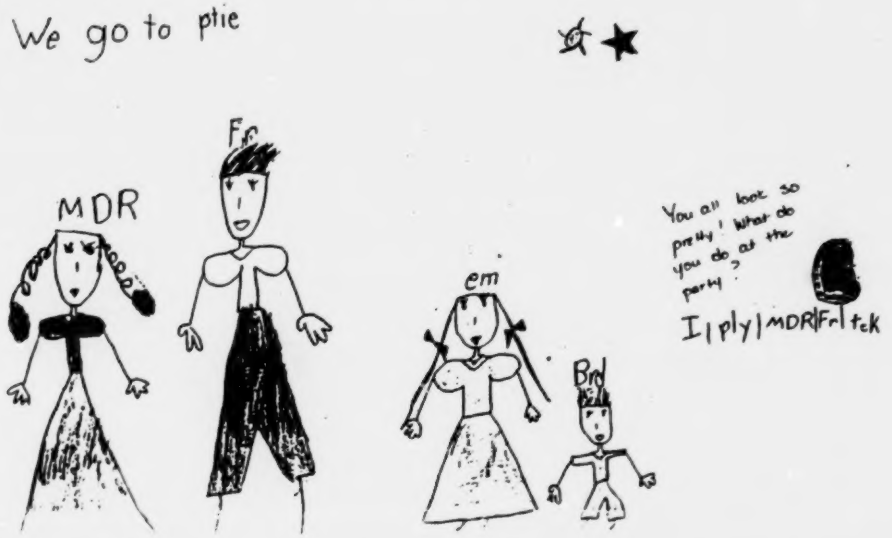

We go to ptie
MDR
Fr
em
Brd
You all look so pretty! What do you do at the party?
I|ply|MDR|Fr|tck

Figure 58. Gokce, August 21-24: Semiphonetic spelling

At home Gokce was learning written Arabic, a language in which the writing goes from right to left. In the first months of school, Gokce sometimes wrote her English words from right to left as well (see Figures 58 and 59). At times she got confused with the letters "a" and "c" (*rcum = room, wct = want*) and used known vowel patterns in words (*taym = time, faye = fire*). Not all the stories were read the same way each time, and transcriptions show variations (see Figure 60).

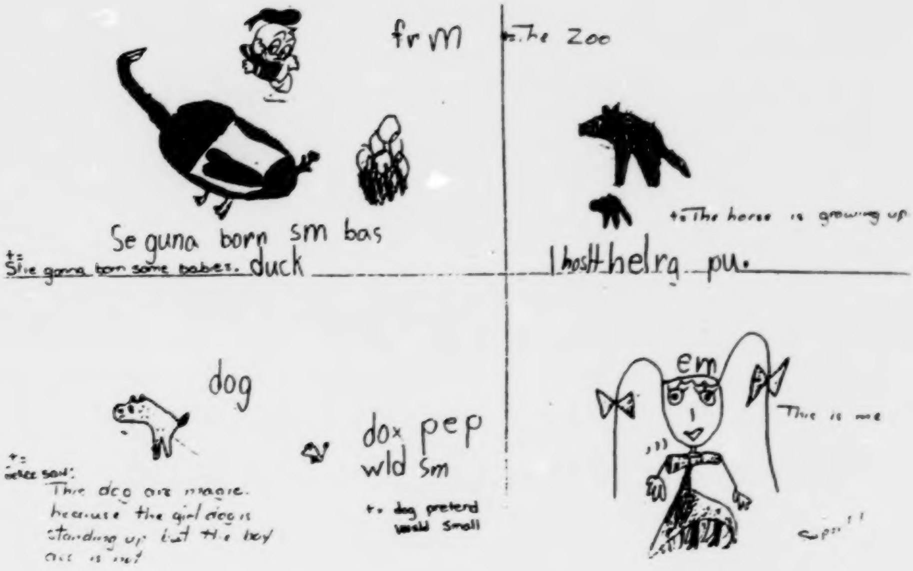


Figure 59. Gokce, August 29-30: Backwards writing

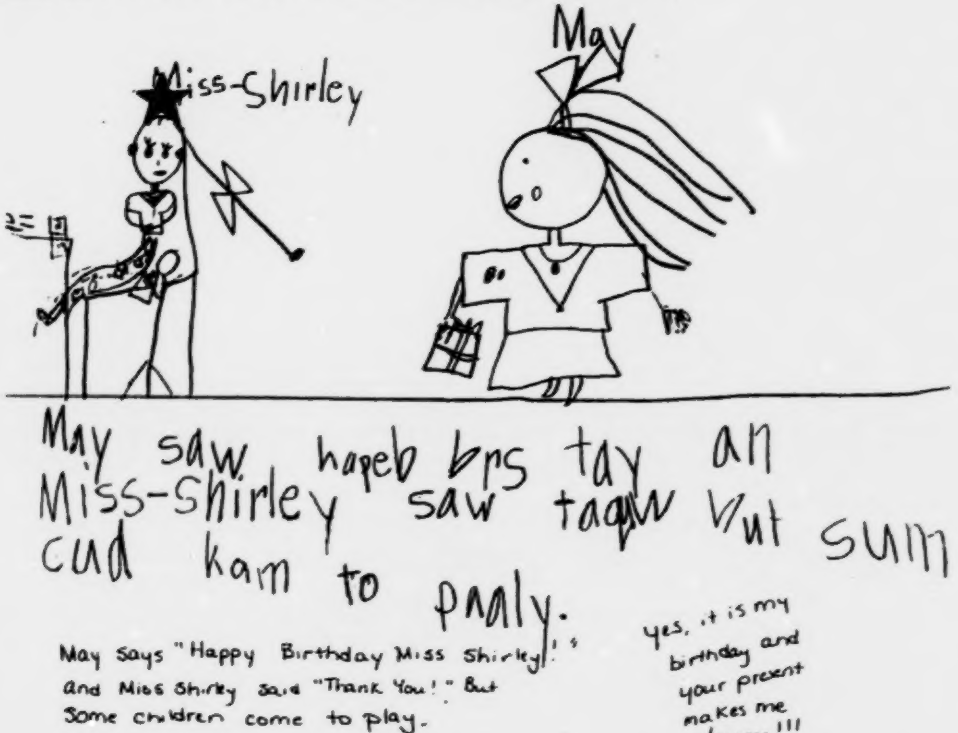
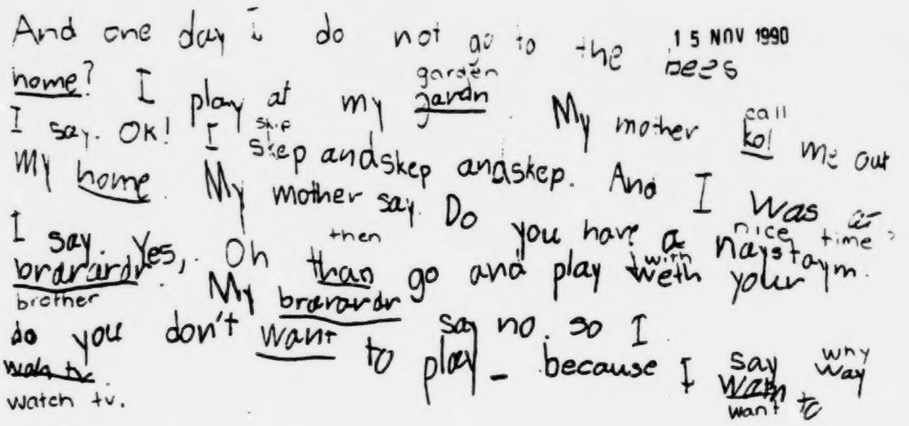

May
Miss-Shirley
May saw hapeb brs tay an
Miss-Shirley saw taqw But sum
cud kam to paly.
May says "Happy Birthday Miss Shirley!"
and Miss Shirley said "Thank You!" But
Some children come to play.
yes, it is my
birthday and
your present
makes me
happy!!!

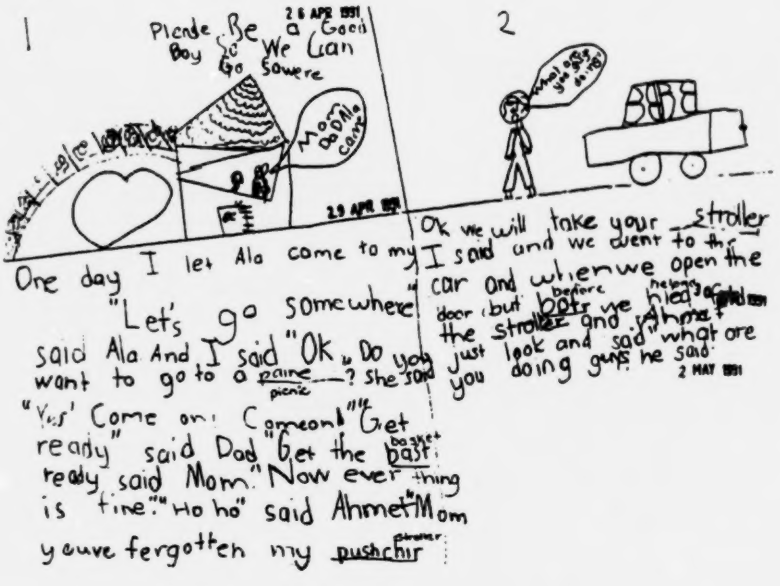
Figure 60. Gokce, September 27-28: Transcription differs from original text

Gokce's stories were shorter than those by her peers; however, the content was always varied and interesting, generally showing much fluency in English (see Figure 61--an excerpt from a four page story, and Figure 62).



And one day i do not go to the 15 NOV 1990
home? I play at my garden bees
jardn. My mother call
I say. OK! I skip
skep and skep and skep. kol me out
My home. My mother say. Do And I was a
I say. Yes, Oh then you have a nice time
brarardr. than go and play with wеth your naystaym.
brother My brararardr
do you don't want say no. so I
~~wala tv~~ to play - because I say why
watch tv. wan want to way

Figure 61. Gokce, November 15: Overall fluency with invented spelling



1
Plende Be a Good Boy So We Can Go Sowere
26 APR 1991
Mom Do Ala Come
2
What are you guys doing
29 APR 1991

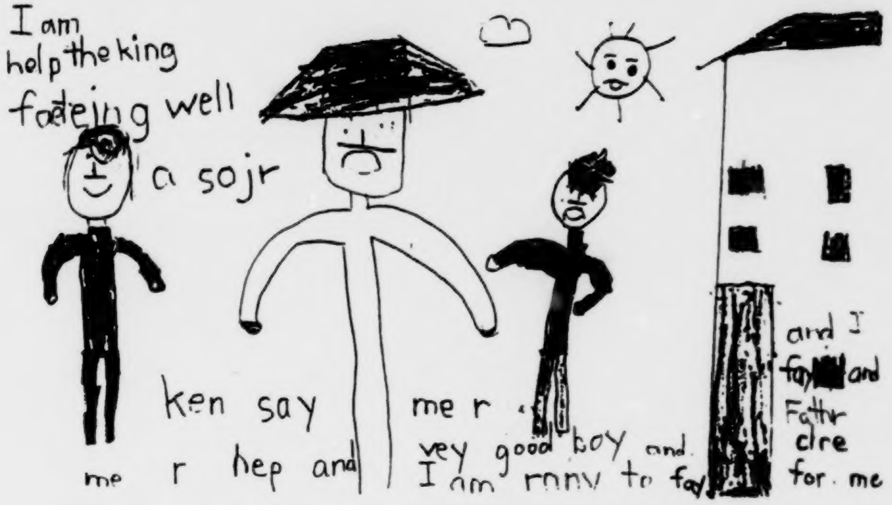
One day I let Ala come to my
"Let's go somewhere"
said Ala And I said "Ok." Do you
want to go to a paine picnic? She said
"Yes" Come on! Comeon! "Get
ready" said Dad "Get the basket bast
ready said Mom." Now ever thing
is fine." "Ho ho" said Ahmet "Mom
youve fergotten my stroller pushchir"

Ok we will take your stroller
I said and we went to the
car and when we open the
door but before bofr we hied helong of
the stroller and Ahmet
just look and said "what are
you doing guys" he said
2 MAY 1991

Figure 62. Gokce, April 29: Overall fluency

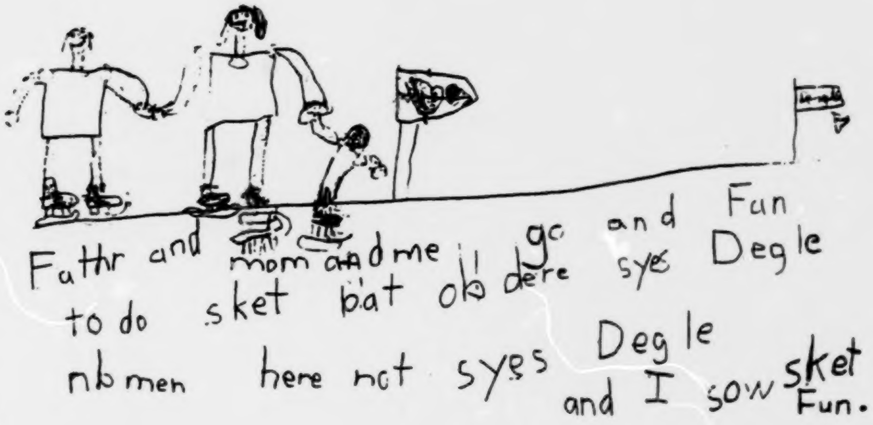
Invented Speller: Hong Jun

Hong Jun, a Korean boy, used the most invented spelling in the class. He had a creative imagination, and his stories covered many topics. In the first month he wrote about swimming, exercising, finding a lost dog, buying toys, traveling in space, hiding in an apple tree, and catching a bad man by boat, as well as writing about a house in the shape of a face, airplanes, and soldiers. As early as the second week of school, it was noted that during conferences with the teacher, Hong Jun made some revising and editing changes on his own. Although he used much invented spelling, I noted in my own journal during the first week of November that Hong Jun seemed overly concerned about spelling. He spent quite a bit of time looking in a pictionary trying to find correct spellings. His stories were always interesting, but often short. Initial stories were usually one to two sentences. He sometimes used capital letters on the first words of the sentence, but also used capitals on some words in the middle of sentences (*I Faind My dog.*). Initially, Hong Jun used semiphonetic spellings (*r = are, ob dere = over there, rany = running*) (see Figures 63 and 64). Hong Jun was the first child to write a three page story without any prompting. Hong Jun, as well as other children, would sometimes draw boxes inside the illustrations and write one word in each box (see Figure 65).



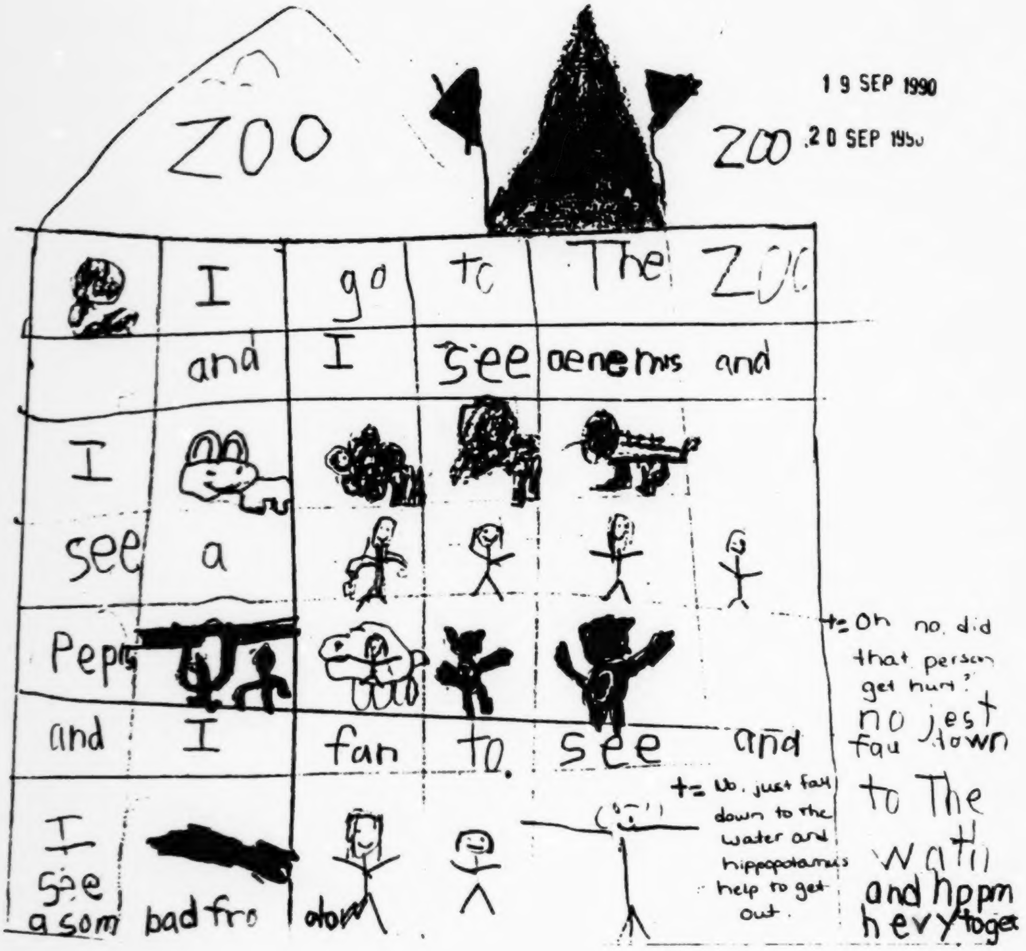
t= I am help the king fighting with a soldier. King says me are very good boy and me are help and I am running to fight and I fight and father claps for me.

Figure 63. Hong Jun, September 13, 14, 17: Invented spelling


Fathr and mom and me go and Fun
to do sket bat ob dere syes Degle
nb men here not syes Degle
and I sow sket Fun.

t = Father and mom and me go and fun to do skate but over there says "Danger." Never mind, here not says danger and I so skate fun.

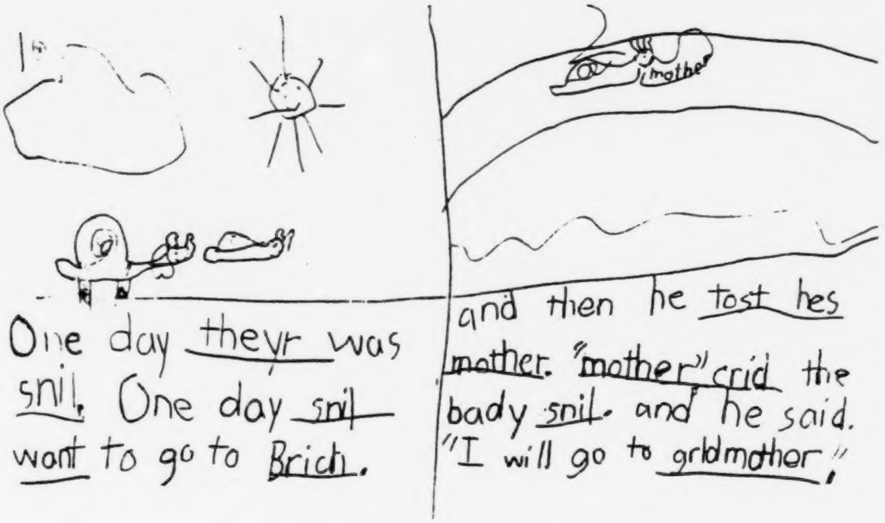
Figure 64. Hong Jun, October 2 and 8: Invented spelling



ZOO
ZOO
19 SEP 1990
20 SEP 1990
I go to The ZOO
and I see aenemis and
I
see a
Peps
and I fan to see and
I see a som bad fro ator
T= Oh no, did that person get hurt?
no jest fau down to The watir and hppm hevy toger
T= No, just fall down to the water and hippopotamus help to get out.

Figure 65. Hong Jun, September 19-20: One word per box

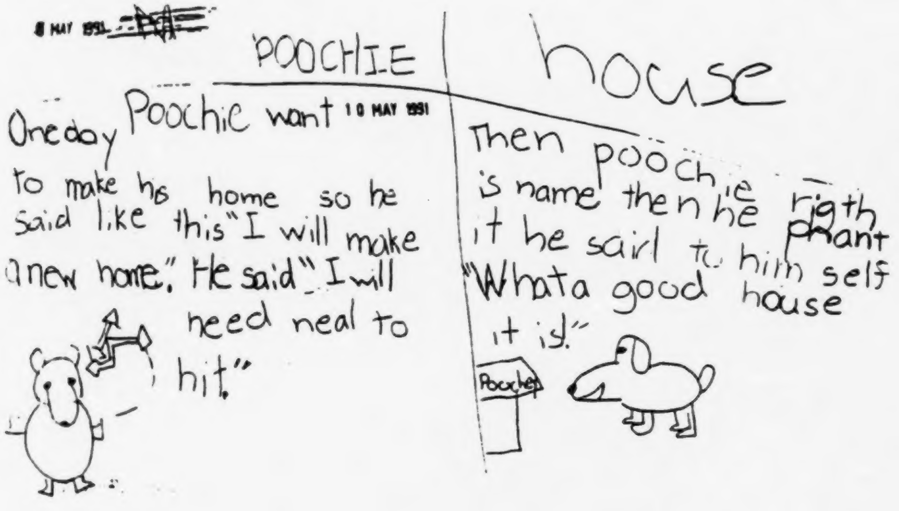
By month six, Hong Jun was creatively writing stories, using invented spelling (see Figure 66), and by May he showed a good working knowledge of written English (see Figure 67).



One day theyr was snil. One day snil want to go to Brich.

and then he tost hes mother. "mother" crid the bady snil. and he said. "I will go to grldmother".

Figure 66. Hong Jun, February 12: Overall fluency



POOCHIE house

One day Poochie want to make his home so he said like this "I will make a new home." He said "I will need neal to hit."

Then poochie is name then he rigth phant it he sairl to him self "What a good house it is!"

Figure 67. Hong Jun, May 10: Overall fluency

These brief summaries of the case studies can hardly do justice to show the tremendous variety of invented spelling usage and overall English writing ability that these first graders demonstrated daily in the classroom. It is evident that the use of invented spelling freed children from excessive concern on correctness, which allowed for creative expression of ideas and writing development. The following chapter will give some practical hands-on suggestions in how to effectively implement a writing workshop in the classroom.

6. APPLICATIONS FOR THE EFL/ESL CLASSSROOM

In this chapter I will be describing practical ideas for teachers based on both published research and personal experience in the following areas: setting up the writing center, providing spelling tools, integrating writing throughout the curriculum, and cultivating effective home environments. Teachers should consider long-range goals for students, including encouraging children to:

--understand that listening, speaking, reading, and writing are inseparable.
--sense authorship and develop ownership of writing.
--write with self-confidence and enthusiasm.
--reinforce peers' efforts with encouragement and praise.
--understand that writing consists of a process of prewriting, drafting, conferencing, revising, editing, and publishing.
--express thoughts in writing with different forms, purposes, and audiences.

Such goals are very important, yet at the same time they are not easily measurable. How can one ensure that these goals are met? If teachers carefully set up the environment, provide the spelling tools needed, integrate writing throughout the curriculum, and cultivate effective home environments, these goals will be evidenced.

Setting up the Writing Center

Set up a writing center to be as attractive and inviting as possible with supplies of unlined paper, lined paper, construction paper, crayons, pencils, pens, markers, glue, tape, stapler, rulers, and scissors. Overhead projectors, tape recorders, computers and typewriters are often used in the center. If the classroom size will not allow for a writing center, all supplies can be centrally located and children can work at their desks or tables individually or in groups. For conferences, children can sit on rugs or sit at their desks.

If the whole class is involved, set up the room furniture to be as conducive as possible for cooperative learning, groupwork, and boardwork. A story corner and cushions or chairs set up for conferencing are effective. An author's chair provides a special place for the author reading a story to a group. If the classroom size does not allow a special area for sharing stories, children will enjoy a special author's chair in front of the classroom. Posters and bulletin boards can promote excitement for writing. Posters attractively explaining the various steps of the writing process are handy for children to read and review periodically.

Prepare a mailbox system for students to communicate with peers, teachers, or other classrooms (Milz, 1990). Let some of your communication with children be in writing. It is enjoyable and encouraging for children to receive mail. Often, reading and rereading a note from the teacher or a peer causes a longer-lasting impression than spoken words.

Arrange a daily time for writing, noting that the first period is often effective. Writing workshops should last from thirty to sixty minutes, depending on the attention span of the children. My experience has been that the first grade children do well with a 40 minute period, although it sometimes seemed too long for some and too short for others.

Give children personal writing folders in which work is to be kept. Keeping rough drafts together allows children, teachers, and parents to periodically assess progress. Staple to the folder a piece of paper which is divided into columns for recording the following: potential topics, rough drafts, published stories, and the dates each was written. As children fill up the sheet, staple another sheet on top. A list of conventions used independently and consistently can also be dated and stapled to the front cover. Such a list could include milestones such as "I can write my name on my story" and "I can begin sentences with capital letters" (Giacobbe, cited in Calkins, 1986). Keep the writing folders in a file in the room, easily collectable and distributable daily. A close alternative to the writing folder is a journal in which the top half of each page is unlined for illustrations and the bottom half is lined for texts.

Establish an atmosphere of trust and caring, allowing time for students to get to know peers, the teacher, and the class routines. The teacher should accept, show interest in, encourage, and praise all children's efforts frequently both in verbal and written feedback.

Establish an environment in which rules are respected. Teachers and children should work together on fully developing a mutual understanding of what the rules are and why they are important. It is often helpful to start with a few rules, and gradually add more (Avery, 1993). Examples by Avery include starting with: (a) Work hard, (b) Work on writing, and (3) Use quiet voices. If peer conferences begin to turn into talk sessions, a rule limiting peer conferences to five minutes can be added to help children use time wisely.

Show samples of writings by other children at their level, including drawings, scribbles, and stories with various stages of invented spelling. This allows children to see that not all writing is "picture perfect." At times, children are resistant to initially try inventing their own spelling. Teachers can work alongside of them, sounding out words and modeling how to write them, using invented spelling as needed.

Encourage children to write from the first day of school. If students say they cannot write like adults, prompt children to write their own way. Encourage the use of invented spelling, emphasizing that the message is much more important than the mechanics. In emergent writing, children sometimes forget what they wrote. The teacher may choose to provide transcriptions of the children's writing at times, such as when publishing, to aid the teacher and children in remembering. Caution must be observed, since children might become discouraged when comparing how different their writing is from the transcription. If this becomes a problem, write the transcription on an attached piece of paper instead of above each word. As another option, write the text next to childrens' illustrations with the original text attached as a last page. The teacher can also write transcriptions down in a separate log book.

Assist children periodically in the brainstorming of topics, as a group or individually, and keep a list of possible writing topics in the folder. Allow them to write about the topics which are most interesting to them. Lists of possible writing topics including: "If I were an astronaut," "My favorite relative," "A quiet place," and "My magical world" are available (Hillerich, 1985, pp. 64-67). Teachers can reveal their own topic choosing strategies. For example, in front of the students, discuss and write down three possible topics, narrowing the decision down to one choice.

When children don't know what to write about, the teacher can provide cartoons or other sequences of three or more pictures which the children can use to create stories. Some children enjoy writing sequenced stories using the framework of "first...then...next... finally..." Others may enjoy a "cloze approach" in which sentence starters are given (My birthday is coming and I would ___________.). This provides signal words and phrases which help students fill in the blanks (Cudd & Roberts, 1989). Teachers and students can also brainstorm practical writing situation ideas such as greeting cards, math problems, advertisements, plays, poems, proposals for special projects, club minutes, pen-pal letters, and recipes (May, 1980). Other ideas include instructions, signs, game rules, song lyrics, notes to parents concerning class trips, travel brochures, and captions for picture albums and year books (Nathan, 1989).

Help children to develop the ability to consider possible audiences such as peers, younger students, older students, siblings, parents, teachers, principals, and other authors. Encourage them to draw a picture for and write a letter to their grandmother or to write a thank-you letter to the principal or a special speaker expressing appreciation for coming. Have them write a book for a younger sibling or an article for the school newspaper. Consider making them an "ideas" poster for reference.

Cultivate a spirit of cooperation between children as they conference with one another, encouraging them to tell peers why they like stories and to ask questions which help increase story clarity, length, detail, and order. The teacher needs to model asking questions to help children learn revision. One revision tool which gives focus to peers in a conference is a checklist. While the author reads the story, the listener can make notes on the sheet and then offer feedback through verbal and/or written forms (see Appendices X and Y).

Have ESL students conference in small groups with native speakers to develop language naturally (Buehler, 1993; Fitzgerald, 1993). When ESL students are pulled out of the mainstreamed class for small group instruction 45 minutes per day, this amounts to only 16% of the day being devoted specifically to ESL language development (Buehler, 1993). In the mainstreamed classroom, assigning native speakers as buddies to help ESL speakers extends the amount of individualized attention for language skills.

Teach spelling and editing skills through mini-conferences or whole-group conferences using teacher drafts, anonymous drafts, and volunteered drafts for examples. The overhead projector is a helpful tool for this. Children are encouraged when the teacher selects portions from their stories and points out the good work to other students. Also, pull out common mistakes from childrens' writings and correct them together as a class.

Consider the effectiveness of computer usage in the writing process. Research has shown that word processing in the first grade classroom helps chidren with spelling and actually encourages more revision (Phenix & Hannan, 1984). Also, discouraged learners often gain interest in overcoming spelling difficulties through computer usage, and reluctant writers can become eager writers (Bromley, 1988). Spell check programs can aid children in editing their own spelling. Text length can increase as children desire to spend more time on the computer. Revisions are easier to make, especially additions and deletions, and motivation increases both in the process and in seeing the final product printed out (Moxley & Barry, 1985).

Allow time for children to read their stories to peers and the teacher the same day they are written, providing an author's chair for them to read their work when in a large group setting.

Publish the children's work in a variety of modes: bulletin boards, personal books, classroom books, library books, school newspapers, in-class displays, out-of-class displays, and other means. Children's individual books often are in the form of one to four sheets of paper, folded, and stapled inside a construction paper cover. They can be rectangular shaped, or cut out in designs. For example, if the story is on bears, the book might be cut in the shape of a teddy bear. Teachers can find a multitude of shapes and designs from books with reproducible patterns. The individual stories can be tacked to bulletin boards with push pins, easily accessible for the children to take down and read.

Use class-created books as sources for grade-level reading materials. As children continue to make books, they see the progress of the entire class as well as their own progress. Especially popular in our classroom were the following books: All About Us, an anthology of autobiographies; Thailand: Through the Eyes of ESL 1, a collection of stories describing aspects of life in Thailand; and A Hippo Ate Our Teacher, a book in which the teacher read a story, stopping just before the climax, and asking children to each write how they think the story should end. The class also published numerous anthologies of stories, with some being bound and used in the school library.

Briefly review student writing progress daily, noting where direct teaching is needed, and periodically review the writing folders for longer term progress. The teacher should keep a journal of progress with a section for each child, noting writing struggles, inprovements, behaviors, and other pertinent information, being objective, selective and brief.

Providing Spelling Tools

The teacher may have the freedom to choose in what manner spelling books are used, if at all. Teachers should not overemphasize the use of spelling books. I personally used spelling books primarily to focus on language arts skills and secondarily to reinforce children's ability to spell. Almost all children spelled 90 to 100 percent of the words correctly, claimed that spelling was "so easy," and received stickers on charts to reinforce good work. Most children were correctly spelling words far above the grade one level in their written rough drafts. In lieu of spelling books, teachers might reinforce spelling by using published word lists or individualized word lists accumulated from the children's own writings.

Children are sensitive to their spelling abilities and may become overwhelmed or dismayed under the realization of the immense volume of words they want to use, especially if they feel expected to spell all words correctly. To prevent this, inform them of which words are at or above their grade level, and encourage them by pointing out the vast number of words they already use correctly.

Certain techniques or practices can be used to develop memorization skills for spelling words. For example, have the children look at each word, cover it, write it, and then check its spelling; use flashcards and finger tracing to reinforce the visual and sensory imagery of word patterns; encourage clear articulation; and help them develop auditory discrimination of sounds (Turner, 1984). Otherwise, teachers may focus informally on spelling solely in the context of the writing workshop.

Students can use a variety of dictionaries to aid in spelling development. One of the most common in the first grade is the picture dictionary, often called a pictionary, which includes pictures with corresponding words or phrases categorized by subjects or by alphabetization. With their easy-to-use format, children can quickly look up spellings or even gain new vocabulary for their writings.

Personal dictionaries can be effective spelling tools, as children record the correct spellings of new words used in their writings. Such dictionaries can be totally individualized, or children may elect to include words from the classroom dictionaries. In my classroom experience, children brainstormed lists of words they wanted in their "base" dictionary. Each word was written on a note card, divided into stacks according to the first letter, which were in turn alphabetized. I then typed the alphabetized list of words on a few sheets of paper, and the children copied them into their dictionaries. Varying numbers of pages were assigned to each letter, depending on how many words we had in our base and the predicted frequency of further use (letters such as "a," "m," and "s" received many pages, but letters such as "q," "x," and "z" each received only one page).

After this base was completed, children would add words based on inventively spelled words from drafts in their writing folders. As children wrote stories, they underlined the words they wanted to know how to spell. When pieces were finished, the children checked their personal dictionaries. The teacher gave the correct spellings for words not found, and the children transfered these to their personal dictionaries under the corresponding first letters.

Classroom dictionaries can also be made from the children's personal dictionaries, involving all the new words used. Even first grade ESL children can be very impressed by the thousands of words they are able to brainstorm.

Published dictionaries can also be used, although these should be specially designed to be grade-appropriate for children. They can be sources for words not in the classroom-made dictionaries.

Thesauri can also be a source of new vocabulary and spelling; however, they are not often aimed at low levels for primary students. Some spelling books are beginning to include a thesaurus with approximately 20-40 words. Along with each entry word is a sentence using the word, a list of 2 or 3 other synonyms, and often a picture clarifying the meaning.

Word charts, large signs hung around the room which focus on specific skills or topics, can be sources of correct spellings for children. Charts may be designed to focus on areas such as phonics (e.g., "tr" or "sh" words), action verbs, verb patterns, colors, or numbers.

Word banks in index card form, either for the class or personal use, are alternative spelling aids. Each new word is printed on a card and categorized in a recipe box or other small box. The word bank not only serves as a spelling resource, but the words can be used in a variety of games and activities to develop phonics and language skills (A. Butler & Turbill, 1984). Word cards can be used for word sorting, a strategy to help students develop word recognition and spelling ability by examining similarities and differerences between words (Barnes, 1989).

Spelling guess books are a unique spelling tool (A. Butler & Turbill, 1984). Children write a few of their invented spellings from a story into their guess book. Alone or in groups, the children try out different spellings for the same word, and try to find resources which may have that word used conventionally. Correct spellings are checked in the book, and the students may transfer the correct spelling into the story. The teacher writes the words in the class dictionary.

Word play games encourage students to examine and compare words by taking them apart and putting them together, using words in various contexts, and discovering letter functions of consonants and vowels (Kelly, 1985). Word study on auditory, visual, and articulatory features of words, short and long vowels, affixes, syllable combinations, word roots, or other foci, can be effectively carried out through games.

Spelling games can be effective motivators for learning correct spelling. In one game, children are encouraged to write a very difficult spelling word as best as they can on a personal child-sized chalkboard or large piece of paper. Each child comes forward individually, shows their inventively spelled word, and lets classmates try to read the word (Nathan, 1989). Properly presented as a game, it teaches the importance of achieving correct spelling without criticizing childrens' efforts in written drafts. Another game is "baseball spelling" in which children move from base to base as a reward for each word correctly spelled (May, 1980).

"Making Words" is a word game which emphasizes phonemic awareness and knowledge of sound-letter correspondence (Cunningham & Cunningham, 1992). Children can be shown that longer words are made from shorter ones, that changing the order of letters changes the word, that new words can be made from just changing one letter, and that certain words need capital letters. To play "Making Words" the teacher hands each student a certain number of letters on cards, perhaps 6, which can be combined in various ways to spell 12 to 15 words (the letters *d, e, i, p, r, and s* can be used to spell *Ed, red, rid, sip, pie, pies, dies, side, ride, ripe, rise, pride, drips,* and *spider,* among others). Capital and small letters are on alternate sides of each card. The teacher may give instructions such as "use two letters to make the word *Ed*" and the children put the correct letters needed to spell the word in their own letter card holders. Each response is checked by the teacher, and the right spelling is put up on a word chart. After hands-on practice, the group can sort the words made into patterns.

Integrating Writing Throughout the Curriculum

Spelling develops in informal learning situations in which the children are immersed in language (Gentry, 1981). Writing can be integrated naturally in all subject areas such as reading, math, science, physical education, health, and social studies. For example, students can describe and illustrate story problems in math. Before science experiments are carried out, students can write in learning logs what they anticipate will happen. Students enjoy writing about sports and sportsmanship for physical education. Possibilities for integration in the language arts include addressing spelling in the Language Experience Approach; dialogue journals and learning logs; listening activities such as patterned books, poems, and rhymes; and dictations.

Spelling can be effectively addressed through reading with the Language Experience Approach (LEA), in which all children are encouraged to participate in creating stories as a group by expressing their ideas, feelings, and experiences. The use of LEA is endorsed by many (Coate & Castle, 1989; DiStefano & Hagerty, 1985; Dixon & Nessel, 1983; Gentry, 1981; Gunderson, 1991; Heying, 1989; Hudelson, 1984; Karnowski, 1989; Kostelny, 1987; Lamb, Hewitt, & Reed, 1989; Levin, 1980; Lim & Watson, 1993; Morris, 1989; Moxley & Barry, 1985; Richgels, 1987; Ridley, 1990; Rigg, 1989; Urzua, 1989; Veatch, 1983).

In an LEA lesson, teachers and students brainstorm a story topic. While students take turns dictating sentences, the teacher records this growing story for all to see (white boards, overheads, or butcher paper all work well). As an alternative, children can write the sentences themselves, using invented spelling as necessary. After students feel their story line is complete, they have the freedom to go back and revise and edit any information.

In the next step, the teacher breaks down the text to the sentence and word levels, pointing out sound-letter correspondences, spelling patterns, and grammar units in accordance with the children's developing language skills. When confident that they will be able to read the story, time is allowed for reading fluency practice.

Using the children's own topic, vocabulary, and language patterns (including spelling, grammar, and overall writing structures), excites children because the story actually belongs to them. This is an especially meaningful process for ESL children, since it is difficult to find texts which are within their language abilities and interests but which also can expand their vocabulary. Watching stories being put together helps provide children with the necessary framework to draft stories on their own.

Journals and learning logs are useful for developing writing fluency and invented spelling in the various subject areas. Journals are often referred to as dialogue journals because they are a base not only for private thoughts but also for interaction on a wide variety of topics with peers, the teacher, or others. Bode identifies the value of writing journals in the following:

> Dialogue journal writing with invented spelling is an activity that incorporates much of what is known about developmental writing.... The use of dialogue journal writing within the context of emergent literacy is not just a simple activity that integrates reading and writing but that it is an essential approach to beginning literacy. (1988, pp. 5, 1)

The importance of journal writing is also stressed by other researchers (Ardizzone, 1992; Fitzgerald, 1993; Freeman & Freeman, 1989; Giacobbe, 1981; Goldman, 1992; N. Hall & Duffy, 1987; Hudelson, 1984, 1986, 1988, 1989b; Kirkpatrick, 1986; Kostelny, 1987; Lamb, Hewitt, & Reed, 1989; Levin, 1980; Lim & Watson, 1993; Lindfors, 1989; Lundsteen, 1986; Miller, 1987; Schafer, 1988; Scibior, 1985; Snyder, 1991; Urzua, 1987; Wallace, 1989; Yellin, 1986).

As children express themelves in non-threatening first person writing, either in English or their native language, their own thoughts and beliefs are discovered (see Appendix Z for examples of journal entries). Especially for teachers of incoming ESL students, journals are useful tools for assessing students' apprehensions as they deal with a new language and culture (Ardizzone, 1992). Teacher's responses should relate to these thoughts and expressed messages, not the form (Schafer, 1988; Wallace, 1989). Responses by teachers provide a wealth of comprehensible input in the modeled correct usage of English for each child. Research on dialogue journals with ESL children shows that although journals do not focus on specific language skills, they teach vocabulary, grammar, spelling, and word usage (Wallace, 1989). Often, children become aware of teacher's responses, and self-correct misspellings in future entries (N. Hall & Duffy, 1987).

Journals used for interaction between students at different grade levels have proven extremely successful. In an experiment pairing up third graders with sixth graders (ESL students were paired with bilingual students with more fluency), the partners passed journals back and forth on approximately a weekly basis (Goldman, 1992). As the experiment progressed, students enthusiastically increased the average length of entry, initiated or responded to writings about many topics, and became excited about having a new friend. ESL children initially wrote in their native language, then wrote in both languages, and eventually wrote in English, all without the teacher's guidance.

Learning logs allow for content-based interaction in which children respond to materials read or anticipated experiences such as what may happen in a science experiment. Learning logs can effectively be used in math to encourage writing story problems.

Listening to the teacher read is another way that children can actually learn spelling and gain an established structure. They will seek to use newly acquired words in their own story writing and will follow the structural patterns of stories the teacher has read. Familiarity with an established structure frees up energy to focus on inventing the spelling. Big books which use predictable phrases and patterns capture the children's attention and are easy to read. Other smaller predictable books also provide structures the children can experiment with individually or as a class (Allen, 1989). Rhymes usually prove very popular with emerging writers and readers. Having children memorize and write familiar verses such as Mother Goose rhymes can give them a starting point, making it easier for them to write and read their invented spellings (S. Hall, 1985b).

Opportunities for sustained, uninterrupted silent reading of library books or other children's homemade books are sources of much new vocabulary and spellings for the children to consider using themselves. Spending time on reading affirms the value of literature, "as opposed to the general daily dose of basal readers and content area texts that students must cope with" (Hudelson, 1989b, p. 62). A classroom library system can provide children the opportunity to check out one or more books daily to take home. This can be very enjoyable "homework" for children.

Dictations, carried out different ways, can also help the process of learning to spell and compose. Watching the teacher transcribe the dictation provides considerable amounts of information about reading and writing (S. Hall, 1986). Observing and rewriting parts of dictations helps ESL emergent writers learn letter formation and the direction of print (Heald-Taylor, 1989). Group dictations can be cut into strips for ESL children to practice copying. Other dictations involve the teacher dictating the message for the children to write. Such texts can be written on pages with children's illustrations.

Cultivating Effective Home Environments

Extend classroom activities into the home environment for reinforcement as often as possible. Explain to parents what the writing process and invented spelling involve during group conferences, individual conferences, or written communication. "Back to School Nights" are good times to explain how the children will be learning in the classroom. Provide parents with a full range of invented spelling samples at different developmental levels to help them see a logical progression (Spann, 1992). Explain that as their children progressed from babbling to understandable speech, their children will progress from scribbling to standard spelling (Fields, 1988; Spann, 1992). Just as parents accepted the child saying "ba" for "ball," they need to accept such similarities in writing. Children may be initially reluctant to invent spellings, especially when their parents' cultural and social influences encourage error avoidance (Cambourne & Turbill, 1987). Parents in such cases need to see that these "mistakes" made are developmental, and will be corrected in time. Periodically showing parents the progression from their children's writing folders offers tangible evidence of individual growth. Parents who are convinced that their children are understanding the code of written language can be guided to provide print-rich home environments which foster writing as well as reading development (Fields, 1988).

Teachers can remind parents that extending reading and writing activities in the home are important to support children's development in invented spelling (Spann, 1992). Encourage reading in the home overall. That is, children can read to siblings, to parents, and alone; parents or siblings can read to children as well. It can be inspiring for children to observe others silently reading. Distribute materials about public and private libraries to the parents. Library memberships or special times in the library will benefit children greatly. Reinforcement systems can be used to encourage reading; for example, children may get a special reward for each ten books read. Encourage parents to give their children gifts associated with writing; for example, a variety of pencils, markers, crayons, paper, journals, stationery, and a dictionary.

Parents can encourage writing in the homes and help children discover what they want to say. Talking about senses of sight, hearing, smell, touch, and taste give children ideas how to richly describe events. Praise children's work frequently, focusing on content, not mechanics. Be aware of natural writing opportunities for children such as taking down phone messages, making grocery lists, writing letters to friends and relatives, and sending cards. Children can watch parents write, parents can watch children write, or both can write simultaneously.

My personal ESL/EFL experience and others' research agree that children benefit greatly in classrooms and home environments which provide ample opportunities to read and write. As teachers develop the environment for writing in a workshop as well as in subject areas and provide the tools needed, children will indeed experience the language arts connections. They will be provided with the opportunities to experiment with invented spelling and progress in writing, thus increasing their self-confidence and enthusiasm.

7. CONCLUSION

Learning to spell is a developmental process in which children gradually proceed from emergent spellings to correct spellings as they make rules and refine their insights of the language code. Children are allowed opportunities to develop their invented spelling in the writing process, best exemplified in the context of a whole language classroom.

Invented spelling has proven to be effective with both native speakers of English and EFL/ESL students as a tool which aids in writing development. Its use has freed students from the fear of making spelling errors, and allowed children to focus on writing fluency. Published and personal research have shown that children who use invented spelling attain high scores on grade level spelling tests, spell many words right at higher grade levels, and demonstrate more fluency characteristics in their writing than peers who use invented spelling to a limited extent.

Teachers and administrators need to thoughtfully evaluate and consider how formal and informal spelling instructional methods best help children develop their spelling abilities. Classrooms need to be structured to provide frequent writing opportunities in which invented spelling ability and writing fluency can be developed. ESL/EFL children and native English speakers alike need to be encouraged to focus on fluency in communication.

The intersection of EFL/ESL and invented spelling is a relatively new field, and opportunities for studies abound. Research on EFL/ESL classsrooms which use invented spelling and those EFL/ESL classrooms which use traditional spelling could further explore spelling methods which work best for non-native speakers of English.

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APPENDIX A

GENDER, NATIONALITY, AND AGE OF CHILDREN

Name	Gender	Nationality	Age as of August
Invented Spellers			
Hong Jun	Male	Korean	6 years 1 month
Gokce	Female	Turkish	6 years 1 month
Feng Shu	Female	Chinese	6 years 4 months
Mean Age for Invented Spellers			6 years 2 months
Xin Yi	Female	Malaysian	6 years 2 months
May	Female	Chinese	6 years 2 months
Jae Kyung	Male	Korean	6 years 2 months
Hoa Jung	Female	Korean	6 years 1 month
E Jei	Male	Chinese	6 years 6 months
Kang Chieh	Male	Chinese	8 years 0 months
Conventional Spellers			
Alice	Female	Chinese	7 years 7 months
Tracy	Female	Chinese	6 years 2 months
Hiu Pong	Male	Chinese	6 years 2 months
Mean Age for Conventional Spellers			6 years 7 months

APPENDIX B

LOWER AND UPPER CASE LETTER-TO-LETTER CORRESPONDENCE

August 23 (fourth day of school)

	Number of lower case letters written correctly out of 26	Number of upper case letters written correctly out of 26
Invented Spellers		
Hong Jun	26	26
Gokce	25	26
Feng Shu	26	26
Mean for Invented Spellers	25.7	26
Xin Yi	26	26
May	26	25
Jae Kyung	26	26
Hoa Jung	26	26
E Jei	26	26
Kang Chieh	26	26
Conventional Spellers		
Alice	26	26
Tracy	26	25
Hiu Pong	26	23
Mean for Conventional Spellers	26	24.7

APPENDIX C

SOUND-TO-LETTER CORRESPONDENCE

August 23 (fourth day of school)

	Mean number of sounds correctly identified (out of 26)	Percentage of sounds correctly identified
Invented Spellers		
Hong Jun	25	96%
Gokce	24	92%
Feng Shu	20	77%
Mean for Invented Spellers	23	88%
Xin Yi	22	85%
May	19	73%
Jae Kyung	23	88%
Hoa Jung	23	88%
E Jei	20	77%
Kang Chieh	24	92%
Conventional Spellers		
Alice	25	96%
Tracy	22	85%
Hiu Pong	22	85%
Mean for Conventional Spellers	23	88%

APPENDIX D

BASIC SIGHT WORD RECOGNITION TEST

September 3

	Number of correctly identified words out of 53 items	Percent of correctly identified words
Invented Spellers		
Hong Jun	53	100%
Gokce	44	83%
Feng Shu	52	98%
Mean for Invented Spellers	50	94%
Xin Yi	47	89%
May	45	85%
Jae Kyung	51	96%
Hoa Jung	53	100%
E Jei	53	100%
Kang Chieh	53	100%
Conventional Spellers		
Alice	52	98%
Tracy	52	98%
Hiu Pong	53	100%
Mean for Conventional Spellers	52	99%

APPENDIX E

SOUNDS IDENTIFICATION AND SPELLING TEST RESULTS

	First Quarter Sounds Total=250	Second Quarter Spelling Total=78	Third Quarter Spelling Total=111	Fourth Quarter Spelling Total=51	Final Exam Total =144
Invented Spellers					
Hong Jun	232	78	104	51	143
Gokce	222	77	101	48	141
Feng Shu	229	78	101	50	143
Mean for Invented Spellers	227.67 91%	77.7 100%	102 92%	49.7 99%	142.3 99%
Xin Yi	224	77	105	51	139
May	216	76	104	50	142
Jae Kyung	231	76	104	51	143
Hoa Jung	242	78	107	51	143
E Jei	228	78	107	51	142
Kang Chieh	231	78	105	51	142
Conventional Spellers					
Alice	238	78	108	49	144
Tracy	232	78	106	50	142
Hiu Pong	244	78	107	50	144
Mean for Conventional Spellers	238 95%	78 100%	107 96%	49.7 99%	143.3 100%

APPENDIX F

PERCENTAGE OF INVENTED SPELLING USAGE FOR WORDS AT ALL GRADE LEVELS PER MONTH

name	percentage by month								
	1	2	3	4	5	6	7	8	mean
Invented Spellers									
Hong Jun	49	73	66	41	37	42	38	27	47
Gokce	67	78	50	42	40	31	34	17	45
Feng Shu	47	63	60	41	40	44	34	27	45
Mean for Invented Spellers	54	71	59	41	39	39	35	24	46
Xin Yi	34	60	52	44	45	33	28	29	40
May	71	51	41	30	37	31	22	11	37
Jae Kyung	50	55	51	43	23	21	16	10	33
Hoa Jung	41	53	47	35	31	24	19	14	33
E Jei	42	53	41	15	17	22	12	16	27
Kang Chieh	29	37	41	32	22	19	13	23	27
Conventional Spellers									
Alice	14	45	33	29	15	8	21	15	23
Tracy	24	35	26	17	19	19	14	13	21
Hiu Pong	8	14	12	10	8	6	8	9	9
Mean for Conventional Spellers	15	31	24	19	14	11	14	12	18

APPENDIX G

MEAN NUMBER OF WORDS USED AND PERCENTAGE OF WORDS SPELLED CORRECTLY AT DIFFERENT GRADE LEVELS FOR MONTH EIGHT

	Grade 1 words		Grade 2 words		Grade 3 and above words	
Invented Spellers						
Hong Jun	70	94%	38	74%	62	48%
Gokce	101	99%	52	94%	88	58%
Feng Shu	66	98%	67	81%	94	50%
Mean for Invented Spellers	79	97%	52	83%	81	52%
Xin Yi	82	93%	47	64%	74	50%
May	97	97%	45	91%	79	78%
Jae Kyung	68	100%	47	94%	68	78%
Hoa Jung	96	97%	46	91%	84	71%
E Jei	65	100%	38	89%	52	60%
Kang Chieh	67	96%	37	78%	50	52%
Conventional Spellers						
Alice	94	99%	58	93%	96	68%
Tracy	95	97%	41	98%	90	72%
Hiu Pong	86	95%	51	96%	83	84%
Mean for Conventional Spellers	92	97%	50	96%	90	75%

APPENDIX H

PERCENTAGE OF TYPES OF INVENTED SPELLING STRATEGIES AT DIFFERENT DEVELOPMENTAL STAGES PER MONTH

name percentage of words at each stage

Hong Jun

month	pr	sp	p	t	c
1	0	24	20	5	51
2	5	40	28	0	27
3	5	31	28	2	34
4	1	18	20	2	59
5	0	10	22	5	63
6	0	9	30	3	58
7	0	6	26	6	62
8	0	2	20	5	73
mean	1	18	24	4	53

Gokce

month	pr	sp	p	t	c
1	3	44	12	8	33
2	11	41	23	3	22
3	4	24	19	3	50
4	1	13	23	5	58
5	1	13	14	12	60
6	1	9	13	8	69
7	1	15	14	4	66
8	0	7	7	3	83
mean	2	21	16	6	55

Feng Shu

month	pr	sp	p	t	c
1	8	25	10	4	53
2	5	31	24	3	37
3	10	24	20	6	40
4	1	17	20	3	59
5	2	14	21	3	60
6	0	20	19	5	56
7	0	9	19	6	66
8	0	8	15	4	73
mean	3	19	19	4	55

Xin Yi

month	pr	sp	p	t	c
1	0	22	5	7	66
2	19	28	11	2	40
3	7	17	21	7	48
4	2	26	10	6	56
5	3	23	17	2	55
6	1	14	16	2	67
7	1	7	16	4	72
8	0	13	11	5	71
mean	4	19	13	4	60

Note. prephonetic stage = pr, semiphonetic stage = sp
phonetic stage = p, transitional stage = t, correct stage = c

appendix continues

May

month	pr	sp	p	t	c
1	17	26	12	16	29
2	16	19	9	7	49
3	6	18	13	4	59
4	5	12	6	7	70
5	4	17	11	5	63
6	5	15	7	4	69
7	5	6	6	5	78
8	3	1	3	4	89
mean	9	14	8	6	63

Jae Kyung

month	pr	sp	p	t	c
1	0	35	13	2	50
2	1	27	24	3	45
3	12	15	22	2	49
4	0	12	31	0	57
5	0	7	15	1	77
6	0	3	14	4	79
7	1	1	10	4	84
8	1	1	5	3	90
mean	2	13	16	2	67

Hoa Jung

month	pr	sp	p	t	c
1	2	5	29	5	59
2	2	11	27	13	47
3	2	5	34	6	53
4	0	5	27	3	65
5	1	4	20	6	69
6	1	2	16	5	76
7	0	0	15	4	81
8	1	1	8	4	86
mean	1	4	22	6	67

E Jei

month	pr	sp	p	t	c
1	5	13	22	2	58
2	5	11	33	4	47
3	5	9	24	3	59
4	0	1	11	3	85
5	0	4	8	5	83
6	2	3	10	7	78
7	0	2	6	4	88
8	0	2	10	4	84
mean	2	6	15	4	73

Kang Chieh

month	pr	sp	p	t	c
1	0	13	3	13	71
2	11	13	8	5	63
3	7	15	16	3	59
4	4	16	8	4	68
5	2	7	8	5	78
6	0	4	10	5	81
7	0	1	11	1	87
8	1	3	15	4	77
mean	3	9	10	5	73

Alice

month	pr	sp	p	t	c
1	0	0	6	8	86
2	1	21	18	5	55
3	2	7	19	5	67
4	1	13	10	5	71
5	0	7	6	2	85
6	0	2	6	0	92
7	1	8	9	3	79
8	1	2	9	3	85
mean	1	8	10	4	77

Tracy

month	pr	sp	p	t	c
1	5	5	2	12	76
2	18	9	4	4	65
3	9	8	5	4	74
4	4	4	4	5	83
5	0	7	5	7	81
6	6	2	6	5	81
7	2	2	4	6	86
8	1	3	4	5	87
mean	6	5	4	6	79

Hiu Pong

month	pr	sp	p	t	c
1	0	2	4	2	92
2	0	1	5	8	86
3	0	0	11	1	88
4	0	1	5	4	90
5	0	1	2	5	92
6	0	0	4	2	94
7	1	0	3	4	92
8	0	0	3	6	91
mean	0	1	4	4	91

Note. prephonetic stage = pr, semiphonetic stage = sp
phonetic stage = p, transitional stage = t, correct stage = c

APPENDIX I

PERCENTAGE OF TYPES OF INVENTED SPELLING STRATEGIES AT DIFFERENT DEVELOPMENTAL STAGES FOR AN EIGHT MONTH MEAN

percentage of words at each stage

Invented Spellers

	pr	sp	p	t	c
Hong Jun	1	18	24	4	53
Gokce	2	21	16	6	55
Feng Shu	3	19	19	4	55
Mean for Invented Spellers	2	19	20	5	54
Xin Yi	4	19	13	4	60
May	9	14	8	6	63
Jae Kyung	2	13	16	2	67
Hoa Jung	1	4	22	6	67
E Jei	2	6	15	4	73
Kang Chieh	3	9	10	5	73
Conventional Spellers					
Alice	1	8	10	4	77
Tracy	6	5	4	6	79
Hiu Pong	0	1	4	4	91
Mean for Conventional Spellers	2	5	6	5	82

Note. prephonetic stage = pr, semiphonetic stage = sp, phonetic stage = p, transitional stage = t, correct stage = c

APPENDIX J

MEAN NUMBER OF STORIES AND WORDS AT DIFFERENT GRADE LEVELS FOR THE EIGHT MONTH PERIOD

name	tns	tnw	ndw	%dw	%wg1	%wg2	%wg3
Invented Spellers							
Hong Jun	59	3731	546	15	25	24	51
Gokce	50	3610	607	17	26	26	48
Feng Shu	47	4731	568	12	23	27	50
mean for Invented Spellers	52	4024	574	15	25	25	50
Xin Yi	67	4928	605	12	28	24	48
May	70	4877	573	12	29	27	44
Jae Kyung	60	4316	459	11	26	25	49
Hoa Jung	69	7119	611	9	28	23	49
E Jei	58	3797	556	15	28	24	48
Kang Chieh	44	3345	389	12	30	26	44
Conventional Spellers							
Alice	69	5863	563	10	26	25	49
Tracy	72	5528	498	9	33	24	43
Hiu Pong	65	5185	522	10	26	25	49
mean for Conventional Spellers	69	5525	528	10	28	25	47

Note. tns= total number of stories in the 8 months
tnw= total number of words used in the 8 months
ndw= total number of different words used in the 8 months
%dw= percentage of different words (total number of words divided by the total number of different words)
%wg1= percentage of grade one words used
%wg2= percentage of grade two words used
%wg3= percentage of grade three words used

APPENDIX K

MEAN NUMBER OF DIFFERENT PARTS OF SPEECH USED

FOR THE EIGHT MONTH PERIOD

Invented Spellers

	n	v	ct	aj	cs	av	pp	cj	pn	ad	ij	id	tot
Hong Jun	205	140	8	54	2	49	15	5	28	14	17	9	546
Gokce	197	149	14	73	2	45	16	6	34	24	29	18	607
Feng Shu	222	133	10	55	2	43	14	5	22	27	16	19	568
mean for Invented Spellers	208	141	11	61	2	46	15	5	28	22	21	15	575
Xin Yi	217	126	5	90	4	46	14	4	27	20	16	36	605
May	207	124	8	50	1	45	12	5	33	37	23	27	573
Jae Kyung	168	125	7	56	0	37	11	3	20	12	8	12	459
Hoa Jung	227	127	7	102	0	40	13	6	28	23	32	6	611
E Jei	212	128	8	69	0	38	17	4	25	17	31	7	556
Kang Chieh	145	98	5	54	1	24	7	4	15	11	15	10	389
Conventional Spellers													
Alice	214	144	3	86	0	44	14	5	22	14	16	1	563
Tracy	171	129	6	65	1	34	16	6	20	26	12	12	498
Hiu Pong	228	127	11	33	1	39	17	4	16	24	20	2	522
mean for Conventional Spellers	204	133	7	61	1	39	16	5	20	21	16	5	528

Note.

nouns = n, verbs = v, contractions = ct, adjectives = aj, comparative or superlative adjectives = cs, adverbs =av, prepositions = pp, conjunctions = cj, pronouns = pn, articles and determiners = ad, interjections = ij, indecipherable words = ip, tot = total

APPENDIX L

PERCENTAGE OF DIFFERENT PARTS OF SPEECH USED
FOR THE EIGHT MONTH PERIOD

	n	v	ct	aj	cs	av	pp	cj	pn	ad	ij	id
Invented Spellers												
Hong Jun	37%	26%	1%	10%	0%	9%	3%	1%	5%	3%	3%	2%
Gokce	32%	25%	2%	12%	0%	7%	3%	1%	6%	4%	5%	3%
Feng Shu	39%	23%	2%	10%	0%	8%	2%	1%	4%	5%	3%	3%
mean for Invented Spellers	35%	25%	2%	10%	0%	8%	3%	1%	5%	4%	4%	3%
Xin Yi	36%	21%	1%	15%	1%	7%	2%	1%	4%	3%	3%	6%
May	36%	22%	1%	9%	0%	8%	2%	1%	6%	6%	4%	5%
Jae Kyung	37%	27%	1%	12%	0%	8%	2%	1%	4%	3%	2%	3%
Hoa Jung	37%	21%	1%	17%	0%	6%	2%	1%	5%	4%	5%	1%
E Jei	38%	23%	1%	12%	0%	7%	3%	1%	5%	3%	6%	1%
Kang Chieh	37%	25%	1%	14%	0%	6%	2%	1%	4%	3%	4%	3%
Conventional Spellers												
Alice	38%	26%	1%	15%	0%	8%	2%	1%	4%	2%	3%	0%
Tracy	34%	26%	1%	13%	0%	7%	3%	1%	4%	5%	3%	3%
Hiu Pong	44%	24%	2%	6%	0%	8%	3%	1%	3%	5%	4%	0%
mean for Conventional Spellers	39%	25%	1%	12%	0%	7%	3%	1%	4%	4%	3%	1%

Note.
nouns = n, verbs = v, contractions = ct, adjectives = aj, comparative or superlative adjectives = cs, adverbs =av, prepositions = pp, conjunctions = cj, pronouns = pn, articles and determiners = ad, interjections = ij, indecipherable words = ip

APPENDIX M

MEAN NUMBER OF WORDS FOR EACH STORY PER MONTH

month	1	2	3	4	5	6	7	8	final story
Invented Spellers									
Hong Jun	18	26	56	134	116	61	68	94	647
Gokce	14	26	69	130	120	79	91	138	788
Feng Shu	14	20	58	190	144	103	143	201	1233
mean for Invented Spellers	15	24	61	151	127	81	101	144	889
Xin Yi	18	40	60	130	139	131	118	114	1180
May	11	28	61	94	112	79	112	115	1068
Hoa Jung	16	35	136	250	151	138	129	135	1020
Jae Kyung	9	17	61	123	128	136	95	103	1101
E Jei	16	31	68	177	54	110	84	86	543
Kang Chieh	10	22	63	98	96	85	88	109	907
Conventional Spellers									
Alice	17	29	88	133	122	63	172	521	1101
Tracy	21	29	93	146	29	115	113	139	1538
Hiu Pong	13	25	61	207	46	147	102	88	1182
mean for Conventional Spellers	17	28	81	162	66	108	129	249	1274

Note. Month eight average does not include the final story. The final story is an individual story, not an average.

APPENDIX N

MEAN NUMBER OF SENTENCES PER MONTH

month	1	2	3	4	5	6	7	8
Invented Spellers								
Hong Jun	26	28	28	17	35	113	72	88
Gokce	32	39	36	68	46	45	77	101
Feng Shu	25	25	23	46	65	130	118	164
mean	28	29	31	44	49	96	89	118
Xin Yi	21	59	43	25	27	24	52	45
May	36	77	95	92	115	115	153	174
Jae Kyung	31	44	25	13	21	34	36	54
Hoa Jung	48	62	28	30	30	53	145	138
E Jei	30	77	28	18	33	54	85	53
Kang Chieh	21	48	45	32	27	61	94	142
Conventional Spellers								
Alice	54	65	24	36	36	39	53	67
Tracy	37	45	50	43	26	50	66	156
Hiu Pong	37	41	25	22	44	43	96	92
mean	43	50	33	34	35	44	72	105

APPENDIX O

MEAN SENTENCE LENGTH PER MONTH

month	1	2	3	4	5	6	7	8
Invented Spellers								
Hong Jun	4.43	5.68	5.48	6.54	5.78	5.51	6.26	7.03
Gokce	3.74	5.88	7.63	7.01	7.85	6.32	7.12	7.00
Feng Shu	4.56	6.42	6.61	7.10	6.66	5.54	7.28	7.52
mean	4.24	5.99	6.57	6.88	6.76	5.79	6.89	7.18
overall mean 6.29								
Xin Yi	5.15	5.00	5.36	4.75	5.86	5.81	5.49	6.21
May	3.53	5.00	5.68	5.99	4.85	5.50	5.84	6.14
Jae Kyung	3.45	4.05	5.46	6.17	6.46	6.88	6.45	6.75
Hoa Jung	3.56	4.73	5.35	6.45	6.16	7.43	6.38	6.99
E Jei	4.84	4.63	6.60	5.60	6.08	5.21	5.97	6.79
Kang Chieh	3.58	3.67	5.63	5.55	6.03	5.62	5.59	6.34
Conventional Spellers								
Alice	3.62	5.15	6.65	7.04	6.59	5.75	6.91	7.29
Tracy	4.51	5.19	5.75	6.69	6.17	6.29	7.44	8.31
Hiu Pong	2.63	4.24	8.00	6.76	7.53	7.68	6.50	7.34
mean	3.59	4.86	6.80	6.83	6.76	6.57	6.95	7.65
overall mean 6.25								

APPENDIX P

MEAN NUMBER OF RUN-ON SENTENCES PER MONTH

month	1	2	3	4	5	6	7	8
Invented Spellers								
Hong Jun	4	12	12	16	21	3	3	2
Gokce	2	11	10	6	11	5	6	10
Feng Shu	0	12	9	26	10	23	21	24
mean	2	12	10	16	14	10	10	12
Xin Yi	0	12	15	16	25	19	29	41
May	0	13	2	2	1	0	0	0
Jae Kyung	0	12	13	8	13	28	21	41
Hoa Jung	0	20	19	24	25	36	25	6
E Jei	0	10	11	7	8	26	7	17
Kang Chieh	0	0	8	10	19	15	0	0
Conventional Spellers								
Alice	0	11	11	25	28	24	34	34
Tracy	3	18	16	15	15	29	17	17
Hiu Pong	0	8	7	16	18	20	31	33
mean	1	12	11	19	20	24	27	28

APPENDIX Q

MEAN NUMBER OF DIRECT SPEECH USAGES PER MONTH

month	1	2	3	4	5	6	7	8	total
Invented Spellers									
Hong Jun	0	6	15	14	11	22	13	21	102
Gokce	0	2	6	18	8	17	14	65	130
Feng Shu	0	2	6	11	16	31	47	47	160
mean	0	3	9	14	12	23	25	44	131
Xin Yi	0	4	41	24	19	11	46	44	189
May	0	29	34	19	42	24	45	44	237
Jae Kyung	0	0	0	2	3	8	16	8	37
Hoa Jung	0	16	51	72	51	62	63	58	373
E Jei	0	6	14	42	15	38	28	19	162
Kang Chieh	0	0	8	8	23	5	15	15	74
Conventional Spellers									
Alice	0	18	26	14	36	14	40	27	175
Tracy	0	0	8	21	17	27	14	21	108
Hiu Pong	0	0	8	6	22	16	30	21	103
mean	0	6	14	14	25	19	28	23	129

APPENDIX R

MEAN NUMBER OF DIFFERENT VERB TENSES FOR THE EIGHT MONTH PERIOD

verb tenses	s	prpo	spa	papo	opt	sf	oft
Invented Spellers							
Hong Jun	443	29	110	16	0	13	8
	71%	5%	18%	3%	0%	2%	1%
Gokce	253	17	219	21	3	12	17
	47%	3%	40%	4%	1%	2%	3%
Feng Shu	413	13	79	3	0	21	17
	76%	2%	14%	1%	0%	4%	3%
mean	370	20	136	13	1	15	14
	66%	3%	24%	2%	0%	3%	2%
Xin Yi	647	50	81	2	0	16	8
	81%	6%	10%	0%	0%	2%	1%
May	596	39	135	0	0	17	15
	74%	5%	17%	0%	0%	2%	2%
Jae Kyung	539	37	104	6	0	4	9
	77%	5%	15%	1%	0%	1%	1%
Hoa Jung	893	23	116	17	0	32	0
	82%	2%	11%	2%	0%	3%	0%
E Jei	422	18	86	8	1	29	4
	74%	3%	15%	2%	0%	5%	1%
Kang Chieh	467	48	38	1	0	9	7
	82%	8%	7%	0%	0%	2%	1%

Note. s = simple present tense, sf = simple future tense,
prpo = present progressive tense, oft = other future tense
spa = simple past tense, opt = other past tenses
papo = present perfect progressive tense

appendix continues

verb tenses	s	prpo	spa	papo	opt	sf	oft
Conventional Spellers							
Alice	689	29	159	13	0	28	6
	75%	3%	17%	1%	0%	3%	1%
Tracy	598	39	124	14	1	7	26
	74%	5%	15%	2%	0%	1%	3%
Hiu Pong	468	34	135	11	0	24	5
	69%	5%	20%	2%	0%	3%	1%
mean	585	34	139	13	1	20	12
	73%	4%	17%	2%	0%	2%	2%

Note. s = simple present tense, sf = simple future tense,
prpo = present progressive tense, oft = other future tense
spa = simple past tense, opt = other past tenses
papo = present perfect progressive tense

APPENDIX S

PERCENTAGE OF DIFFERENT SENTENCE PATTERNS FOR THE EIGHT MONTH PERIOD

sentence types	1	2	3	4	5	6	7	8	9	10	11
Invented Spellers											
Hong Jun	10	9	16	15	37	2	0	2	2	2	5
Gokce	6	11	23	17	23	1	0	4	5	3	7
Feng Shu	4	6	25	18	31	1	1	6	1	2	5
mean	7	9	21	17	30	1	0	4	3	2	6
Xin Yi	7	9	21	25	30	1	0	2	1	0	4
May	4	17	24	20	27	1	1	1	0	0	5
Jae Kyung	3	11	25	15	38	1	0	2	0	3	2
Hoa Jung	8	11	16	19	34	3	0	2	2	2	3
E Jei	12	14	17	14	33	1	0	3	1	0	5
Kang Chieh	10	6	23	14	40	1	1	1	0	0	4
Conventional Spellers											
Alice	7	6	17	17	40	1	0	1	2	2	7
Tracy	3	7	14	19	41	0	0	2	2	5	6
Hiu Pong	8	5	19	14	38	1	0	6	1	2	6
mean	6	6	17	17	40	1	0	3	2	3	6

Note.

1 = Labels/One Word
2 = Phrases
3 = Subject - Verb
4 = Subject - Verb - Complement
5 = Subject - Verb - Object
6 = Subject - Verb - Indirect Object - Object
7 = Subject - Verb - Object - Complement
8 = Subject - Verb - Coordinating Conjunction "and" - Subject - Verb
9 = Subject - Verb - Coordinating Conjunction (others) - Subject - Verb
10 = Subject - Verb - Clause "because" - Subject - Verb
11 = Subject - Verb - Clause (others) - Subject - Verb

APPENDIX T

MEAN NUMBER OF DIFFERENT SENTENCE TYPES FOR THE EIGHT MONTH PERIOD

	imperative		declarative		exclamatory		interrogative	
Invented Spellers								
Hong Jun	24	4%	543	86%	49	8%	12	2%
Gokce	20	4%	450	85%	39	7%	23	4%
Feng Shu	18	3%	596	87%	32	5%	39	5%
mean	21	3%	530	86%	40	7%	25	4%
Xin Yi	48	5%	743	84%	53	6%	43	5%
May	28	3%	675	77%	115	13%	63	7%
Jae Kyung	10	1%	687	97%	6	1%	8	1%
Hoa Jung	51	4%	899	77%	150	13%	64	6%
E Jei	41	6%	511	75%	85	13%	40	6%
Kang Chieh	10	2%	522	87%	58	10%	7	1%
Conventional Spellers								
Alice	19	2%	828	90%	42	5%	30	3%
Tracy	10	1%	769	93%	27	3%	25	3%
Hiu Pong	17	2%	680	88%	46	6%	31	4%
mean	15	2%	759	90%	38	5%	29	3%

APPENDIX U

ANALYSIS SHEET FOR EACH MONTH

Rough Draft Analysis for Month: Name:

Total number of
- nouns ____________________
- verbs ____________________
- contractions ______________
- adjectives ________________
- comp. or super. adjectives ___
- adverbs __________________
- prepositions ________________
- conjunctions ________________
- pronouns ___________________
- articles and determiners _____
- interjections _______________
- indecipherable ______________

Variety of verb tenses
- simple present (I work) _________
- present progressive (I am working) _________
- simple past (I worked) _________
- past progressive (I was working) _________
- other past tenses (I have worked, I have been working, I had worked, I had been working) _________
- simple future (I will work) _________
- other future tenses (I will have been working) _________

Number of direct speech usages ________________

Story #	# of sent.	total words	average length

Sentence patterns
- labels/one word ______
- phrases ______________
- S-V _________________
- S-V-Comp ____________
- S-V-DO ______________
- S-V-IO-O ____________
- S-V-O-Comp __________
- S-V-Coor Conj (and)_____
- S-V-Coor Conj (others)__
- S-V-Clause (because) ___
- S-V-Clause (others) ___

Sentence types imp ___ exclam ___ inter ____ decl __________

Run-on sentences ____________

Invented spelling

prepc	gr1 ________	gr2 ________	gr3+ ________
semiphc	gr1 ________	gr2 ________	gr3+ ________
phonetic	gr1 ________	gr2 ________	gr3+ ________
transit	gr1 ________	gr2 ________	gr3+ ________
correct	gr1 ________	gr2 ________	gr3+ ________
total	________	________	________

APPENDIX V

ANALYSIS SHEET FOR EIGHT MONTHS

Rough Draft Analysis Eight Months Name:

Size and Sophistication of Vocabulary
Total number of stories (tns), total number of words (tnw), percentage of different words (pdw), number of different words (ndw) and percentage of different words at grade levels (dwgl)

Month	tns	tnw	pdw	ndw	dwgl 1	dwgl 2	dwgl 3
1			%		(%)	(%)	(%)
2			%		(%)	(%)	(%)
3			%		(%)	(%)	(%)
4			%		(%)	(%)	(%)
5			%		(%)	(%)	(%)
6			%		(%)	(%)	(%)
7			%		(%)	(%)	(%)
8	*	*	%		(%)	(%)	(%)
	( )	( )					
total			%		(%)	(%)	(%)

*with book (without book)

Total Number of nouns (n), verbs (v), contractions (ct), adjectives (aj), comparative or superlative adjectives (cs), adverbs (av), prepositions (pp), conjunctions (cj), pronouns (pn), articles and determiners (ad), interjections (ij), and indecipherable (ip)

month	n	v	ct	aj	cs	av	pp	cj	pn	ad	ij	id
1												
2												
3												
4												
5												
6												
7												
8												
total number												
total	%	%	%	%	%	%	%	%	%	%	%	%

appendix continues

Structural Complexity

average sentence length (asl), average number of words per story (anw), total number of run on sentences, number of run on sentences (ros), percentage of run on sentences, total uses of direct speech (ds)

Month	asl	anw	tns	ros	pros	ds
1						
2						
3						
4						
5						
6						
7						
8		* ( )				
total number						
total%	%	%	%	%	%	%

*with book (without book)

Variety of verb tenses

s = simple present (I work)
prpo = present progressive (I am working)
spa = simple past (I worked)
papo = past progressive (I was working)
opt = other past tenses
    simple present perfect (I have worked)
    present perfect progressive (I have been working)
    simple past perfect (I had worked)
    past perfect progressive (I had been working)
sf = simple future (I will work)
oft = other future tenses

Month	s	prpo	spa	papo	opt	sf	oft
1							
2							
3							
4							
5							
6							
7							
8							
total number							
total %	%	%	%	%	%	%	%

appendix continues

Sentence Patterns

simple pattern	labels/one word	= 1
	phrases	= 2
simple sentences	S-V	= 3
	S-V-Comp	= 4
	S-V-DO	= 5
	S-V-IO-O	= 6
	S-V-O-Comp	= 7
compound sentences	S-V-Coor Conj (and)	= 8
	S-V-Coor Conj (others)	= 9
complex sentences	S-V-Clause (because)	= 10
	S-V-Clause (others)	= 11

month	1	2	3	4	5	6	7	8	9	10	11
1 #											
2											
3											
4											
5											
6											
7											
8											
total number											
total	%	%	%	%	%	%	%	%	%	%	%

Sentence Types

imperatives (imp),
declaratives (dec),
exclamatories (exc)
interrogatives (int)

Month	imp	dec	exc	int
1				
2				
3				
4				
5				
6				
7				
8				
total number				
total	%	%	%	%

appendix continues

Invented Spelling Strategies for Words at Different Grade Levels

prephonetic stage (pr),
semiphonetic stage (s),
phonetic stage (ph),
transitional stage (t),
correct stage (c)

month	pr			s			ph			t			c		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1 #															
	(	%)		(	%)		(	%)		(	%)		(	%)	
2															
	(	%)		(	%)		(	%)		(	%)		(	%)	
3															
	(	%)		(	%)		(	%)		(	%)		(	%)	
4															
	(	%)		(	%)		(	%)		(	%)		(	%)	
5															
	(	%)		(	%)		(	%)		(	%)		(	%)	
6															
	(	%)		(	%)		(	%)		(	%)		(	%)	
7															
	(	%)		(	%)		(	%)		(	%)		(	%)	
8															
	(	%)		(	%)		(	%)		(	%)		(	%)	
total number															
total	(	%)		(	%)		(	%)		(	%)		(	%)	

APPENDIX W

GUIDELINES FOR LONGITUDINAL STUDY DATA ANALYSIS

Story Length: If a child chose use pre-illustrated sequenced pictures instead of writing totally without the help of pictures, in order to be counted as a story, the texts describing each picture must relate. If a child wrote about each picture individually but did not connect the texts, each description was counted as a separate story.

Sentence Length: Labels, single words, and phrases were counted as sentences when determining sentence length. If a label was given more than once per story, only one label was counted. Likewise if there were many speech bubbles with the same words, only one was counted.

Run-on sentences: Before sentence length calculations were made, run-on sentences were broken down into grammatical units to avoid incorrectly high numbers of words per sentence.

When counting sentence length, the number of words written was counted. At times students would add in words to their written story as they verbalized it to the teacher. The example "I/ply/MDR/Fr/tck" was counted as a five-word sentence even though it was read as a twenty-word sentence: "I play with my brother. My mom was talking with her friend, and my father was talking to her friend."

Nouns: Proper names like "Hoo Chul" were counted as one word. Longer nouns like "United States of America" would be counted as four words.

Names to identify ownership of papers and dates on the top of the page were not counted in the number of words per story. However, if a child's own name was included in the story, it was counted as a noun correctly spelled at grade one level. If another child's name was used in the story, it was counted at the grade three level, as it is harder to spell others' names.

Verbs: At times children would spell simple verbs correctly (run), but would use invented spellings at higher grade levels when suffixes were added (runing). In such cases, the word was counted as inventively spelled at the higher grade level. Irregular forms of the same verb such as "have", "had", and "has" are all counted as separate words.

appendix continues

Homophones: Some homophones, such as "fly," could be categorized more than one way, such as both a noun and a verb. If a child used a single word to have two different meanings, it was counted as two words.

Contractions: includes those with pronouns and verbs (I'm) as well as verbs and adverbs (don't).

Articles and determiners: Numbers (9) appearing in the story were counted as determiners at the grade one correctly spelled stage. If the number was spelled, it was counted at the appropriate grade level.

Interjections: includes words such as "bye bye," "o.k.," "no," "yes," and "oh" as well as sound effects such as "zeeeeee" and "w-w-w-w-w-w." Each was counted as one word.

Indecipherables: Some invented spellings were intended to convey meaning, although they were indecipherable. In such cases, I categorized them separately (indecipherable), and used context clues to make my best estimate of approximately what grade level of words was intended, generally assigning half each to the grade two and grade three and above levels.

Verb types: In the case of run-on sentences, each verb in the sentence was categorized (verbs in infinitive phrases were not counted). In dialogue the child frequently uses the words "says," "said," or "asked." When counting total use of verb tenses, each would be counted only once for simple present and once for simple past per story.

Sentence Types: If a child did not use the correct grammar, the closest sentence pattern was determined. For example if the child wrote "Jae Kyung likse to sun" to convey "Jae Kyung likes the sun," the pattern was counted as S-V-O. If only a word or a few words, such as a relative pronoun are omitted, the child was still given credit for using that structure ("He dream he was doing a very good show." was counted as S-V-Clause; "He think it is his mother do for him." was counted as S-V-Clause). If a child's sentence deviates much from a pattern, it may only be counted as a phrase ("She not becoz no good" was counted as a phrase, not a complex sentence with a clause).

Sentence Types: Often children wrote each page as one sentence. Emergent writers experiment with punctuation at early stages. If this structure was only counted as one compound sentence, it would not examine the individual sentence structures or types. Therefore, each individual part was treated as a sentence. In such cases, there may be a higher number of sentence structures than total number of sentences.

Sentence Types: Initial sentence structures such as "She said..." were not counted in determining the sentence type ("She said 'I don't like you.'" was counted as S-V-DO). At times the child used the word "said" without direct speech ("He said hello to his mother." was counted as S-V-DO-IO).

appendix continues

Sentence Types: A structure such as "going and going" was not counted as a compound sentence. To be a compound sentence, the two parts joined must be different verbs and have separate nouns preceding them.

Direct speech: Students' written conversations were counted as direct speech when either one or more quotation marks was used or an indicator such as "he said" was used.

Declaratives: If a run-on sentence included all declaratives, it would be counted as one declarative sentence. If the run-on sentence included one or more sentence types, the sentence types would be counted as many times as they appeared.

Interrogatives: Some children inventively used question marks in their stories, but did not intend to ask questions. Such cases were counted as declaratives. To be counted as a question, the students could either form a question and use a question mark, or use a question word such as why, what, do, or can. For example, "Do you want to play." and "You can play with me now?" were both counted as valid questions.

Exclamatories: Students could either use the exclamation mark or show in some way (such as large letters) that an exclamation was intended.

Invented Spelling: If a child drew a picture in the middle of written text when spelling was unknown, it was counted at the semiphonetic level as a symbol.

Words used without correct capitalization (saturday) would be counted in the transitional stage. Letter reversals were also considered in the transitional stage.

ESL writers understandably use grammatical structures incorrectly. "He think" instead of "He thinks" and "a boy name Jack" instead of "a boy named Jack" were not counted as misspellings; they were simply incorrect grammar.

APPENDIX X

REVISING CHECKLIST

Title:
Author:
Date:
Peer Editor:

Did the story make sense?

Did the story have a beginning, middle, and end?

Did the story tell you when things happened?

Did the story tell you who the characters were?

Did the story tell where it took place?

Was there anything that was confusing?

Was there anything that the story didn't need?

Was there anything that could be changed?

Were there illustrations?

What else did you want to know?

What was the best part of the story?

APPENDIX Y

EDITING CHECKLIST

Title:
Author:
Date:
Peer Editor:

Punctuation: Check each sentence.

. use one of these to end each telling sentence
! use one of these to end an exciting sentence

? use one of these to end each question

, use this to separate things in a list
(apples, oranges, and bananas)
or when you take a little breath when
reading your sentence
" " use these when people are talking

Spelling: check for correct spelling, underline words
which you are unsure of

Capital letters: check for names, countries, weekdays,
months, holidays, titles, etc...

Sentences: make sure they say a complete idea
make sure they don't start with "and, "
"but," or "because"
make sure they don't all run together

Paragraphs: indent

Form: make sure you wrote the title, author's name, and date

APPENDIX Z

QUOTES FROM JOURNAL ENTRIES

I hpepi wuy mrh [I happy very much]

One girl is ump two girl come to ump 1 + 2 = 3

I am very hungry I whant to eat cake I whant to eat apple when I ting [think] Like this and I want to eat Some ting I am Waitting for a Lunch time Pleas be a Lunch time fastur I whnt to eat some ting ya! is a Lunch time ya! run run run! wow a food Lats eat fastur Lats eat Lats eat the end

I can read bicas I learn and i try so dat how can I read I can writ bicas I say and liten the suod and writ so dat how can I writ I like to writ very mach

I like friend if they share, play nicely, and liking me. thets what I want to find from a new friend.

Happy is eat...Surprised is play ball...sad is krin [crying], sad is din [die]. mad is hint [hurt], mad is so bat [bad],

The most fun thing was sleep. I went to tiwun [Taiwan] to see my gred fathr [grandfather] and I came back and I go out to play

My most favorite story in unit 1 "The Mitten." because the frog, mouse, owl, rabbit, and bug all want to fit in the mitten and it rips. My least favorite story in unit 1 is A Collage becaue I don't like to make collage.

I leren how to writhe maoe [write more]. I like it very mach.

I learn so much hard work that I don't know and it can helps me to don't start a sentence with because...

You teched me what a good auther will do...I learned so much that I can't write it in my book! So some times I can't say a word in Polish, but I can say it in english. I learned sooooo much that I could be a techer now !!!!!!!! You have good inders [ideas] like writeing a leter for your faverit auther. I am claping my hands for my faverit techer!

Note. Teacher's transcriptions are in brackets [ ].